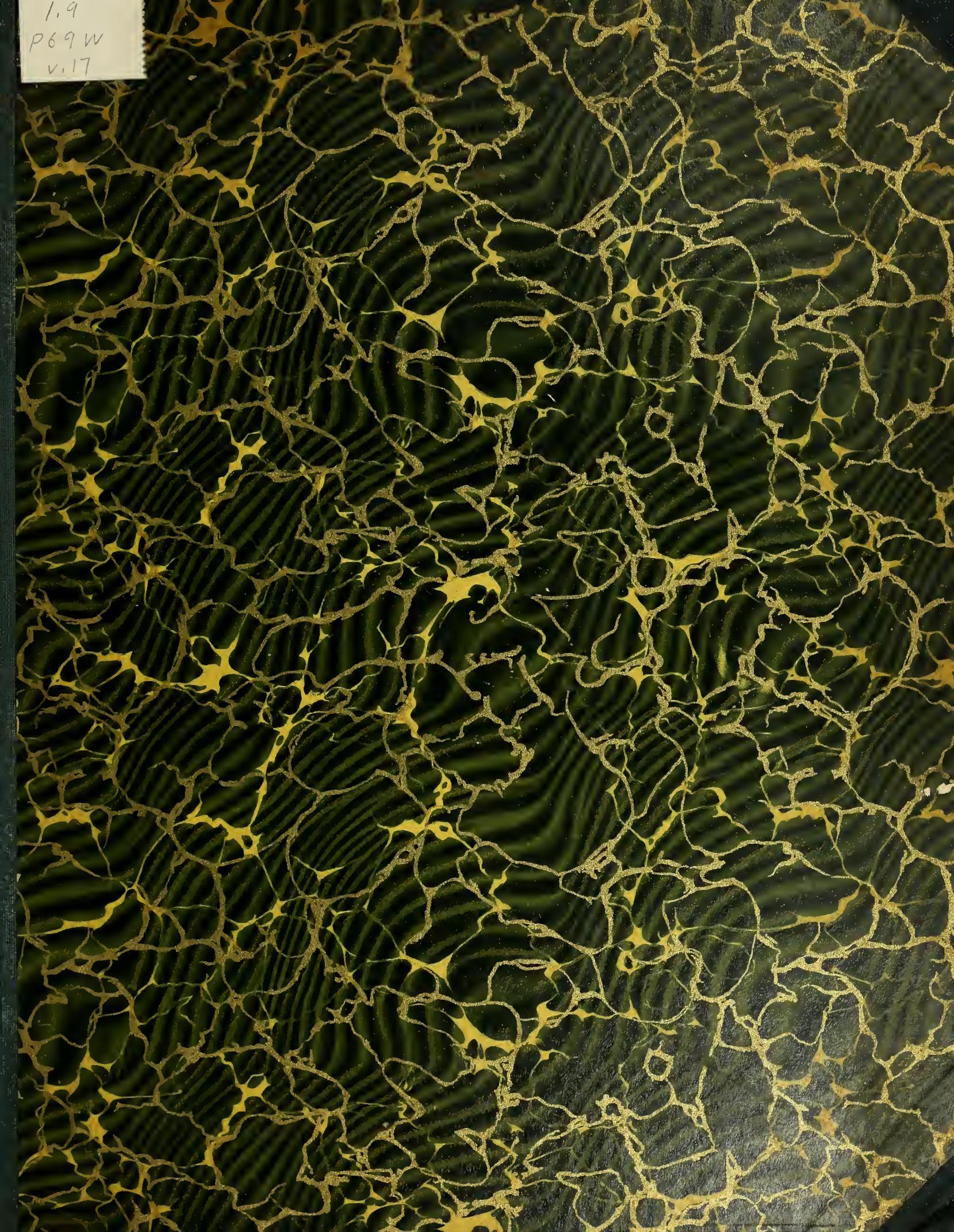


# **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



1.9  
P69W  
v.17



1.9  
P69W  
v.17 1920 wanting: No. 2, 6.

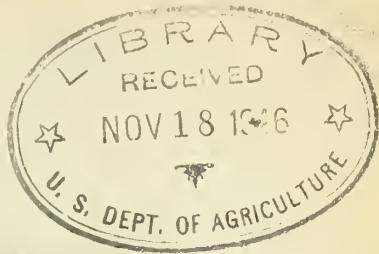
## PROPERTY

OF THE

U. S. Department of Agriculture  
BUREAU OF PLANT INDUSTRY

Syracuse, N. Y.  
Makers  
Sagard Bros.

1.9  
P6aw  
copy 2



## **WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

JAN 8 1920

PERSONNEL

WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Beyer Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSBLUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Bard, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

DEMONSTRATIONS ON RECLAMATION PROJECTS

A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
..... 318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SHOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
.....	Agriculturist
<u>UNCOMPAGRE RECLAMATION PROJECT</u> , .....	Montrose, Colorado
H. A. Ireland, .....	Agriculturist
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg.,	Yakima, Wash.

E. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE  
and  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

---

Vol. XVII.

January 3, 1920.

No. 1

---

AGRICULTURAL DEVELOPMENT ON THE UNCOMPAHGRE RECLAMATION

PROJECT IN 1919.

By H. A. Lindgren, 1/

General.

The work of the year was most encouraging to the agricultural population. The season was favorable for crop growth, except for a late frost, on May 31, which killed the fruit crop on Spring Creek Mesa. The fruit on the lower end of the project was not injured. A slight injury to the wheat and alfalfa resulted from this freeze. The potato crop was somewhat thin in stand, although the yield is turning out well. The irrigation system furnished an abundance of water throughout the season, and the greater part of the time the ditches carried a full head. As the crop survey has not been made it is not possible to give any detailed reports, except as estimates. Alfalfa weevil was discovered on the project and resulted in a quarantine on the Spring Creek Mesa section. It caused considerable alarm to the people within the boundary of the quarantine lines. Just what effect it will have on the general condition cannot be predicted as yet. It is, however, true that all hay will be fed locally and none will be shipped out as in former years. This will have very little effect on the hay market, as the amount shipped to outside points has always been small.

Agriculture on the project, generally, is in a prosperous condition and the farmers stand a chance of very satisfactory returns.

Dairying.

The dairy situation on the project is as it has been over the entire country, increasing with the demand for dairy products. The late freeze last spring had considerable to do with increased interest locally. Orchard men became interested in dairying as a means of combating the weather conditions. The demand for dairy cows has been strong, and whenever a good producing cow was

offered for sale she was promptly picked up. Fortunately, it has been possible to fill a large part of the demand from local herds. The progress made in dairying in the past four years has made more cows available for the trade. The results from the placing of the registered bulls over the project has greatly increased the number of dairy heifers. In some cases these bulls have been used on as many as fifty cows in a neighborhood.

The activities of this office during the year were directed toward assisting the farmers to determine the returns received from their cows, through monthly testing, and in listing and placing cows for the farmers at their request.

There was a noticeable improvement in the quality of dairy cows rather than increase in numbers. The farmers on the project are rapidly coming to realize that the good producers are the only kind to keep.

Interest continues stronger in the Holsteins as a dairy breed for the project, although there is a slight interest in favor of Jerseys and Guernseys.

There has been a marked increase in irrigated pastures on project farms, which has assisted greatly in the improvement of feeding conditions for the dairy cow. This feed is far more economical than any other that can be grown.

Some work was done to interest project farmers in the accredited herd work carried on by the Bureau of Animal Industry. Four reactors were found in the four herds tested as a result of this work.

The marketing of dairy products was quite satisfactory. Local creameries have been unable to supply the market demand. Prices of butterfat were very good, not falling below 36 cents during the nine months and ranging as high as 70 cents. Production at the Montrose Creamery has greatly increased, owing to the demand for butter from outside points. The banner month was reached in June, when 13,000 pounds of butter was made.

The dairy industry is gaining a substantial footing among the smaller farmers and homesteaders, not as a major industry, but in connection with other branches of farming.

The future development of the industry will continue to increase so long as the market is good and the demand for dairy products continues. It is true of the greater portion of the farmers that when they become prosperous, they discontinue milking cows, mainly on account of inability to secure efficient help. The small farmers continue milking until they get on their feet, then in most cases they sell their cows and devote their energy to other branches of farming.

Swine.

The swine industry is gradually becoming placed on a substantial basis. It is being regulated more to the basis of marketing the feed grown on the farm than a matter of trying to purchase feeds, and economically feed out the hogs on a strictly feeding basis. There have been three sales of registered hogs held on the project this year. This has had a tendency to supply the farmers pretty well with breeding stock. The number of hogs is about the same as last year.

It is believed that, under existing conditions, it is more economical to raise hogs on the basis of home grown feeds rather than ship in feeds from outside points.

The Duroc-Jersey remains the predominating breed on the project, although interest in the Poland China has been strengthened during the past year. Several of these have been brought in from the outside and the breeders, many of whom are new, are receiving inquiries for breeding stock. Many of the Duroc-Jersey boars are registered and most of the sows are pure-bred. The type of the feeder is gradually improving through the use of good boars. Most of the breeders practice the system of two litters a year. When this is done the pigs are pushed, so as to market them in six to eight months time. The activities of this office with regard to breeding and herd improvement have been directed toward still greater improvement in types through proper mating. This has been accomplished mostly through assistance in the selection of boars of the proper type. There is still a great deal to be done in the way of improvement in breeding practice. As the greater number of boars used locally are supplied by the local breeders, it is important to work closely with these men and, through them, correct any undesirable features in type. The breeders are all very glad to cooperate in this.

The main feeding system is grain on alfalfa pasture and self-feeders for the fattening of hogs. Ground wheat is the principal grain used. The stubble fields afford very cheap gain during the fall, and the feeding of cull apples and potatoes has also been a source of cheap gains. Root crops are being planted for winter succulence. The grain situation up to this time has been rather undecided with regard to profitable gains. Feeding tests have brought out the fact that wheat is the most economical feed. More corn is being grown each year and in time will play an important part in the feeding system on the project. Although with alfalfa pasture wheat has not balanced the ration so well as corn, it has been necessary to take into account that there are 13,000 acres of wheat produced each year on the project, a great deal of which is of low milling value. This low grade wheat is excellent feed and should be fed to hogs. It does not pay the farmers to sell their wheat at a price, less freight, to a market and buy corn at a price plus freight from a market.

Feeding tests have been conducted whenever possible to determine the cost of gains. The data gathered has been used to advantage in discussing hog-raising with the farmers. It has cost from 6 to 10 cents to put on gains on alfalfa pasture, and in fattening it has cost 12 to 16 cents to put on gains. This does not include the cost of labor.

There has been considerable hemorrhagic septicemia and cholera among the hogs in the valley, but these diseases have been ably handled by the local veterinarians. A great deal of vaccination has been carried on, and the losses have been comparatively slight.

The number of cars of hogs marketed compares very closely with the same period last year. Most of the hogs are marketed through the two cooperative associations now in operation on the project. Denver is becoming the exclusive hog market for the project.

This office has assisted the associations whenever possible in all matters pertaining to the listing and marketing of hogs.

As compared with the other industries, hog raising is in reality the most important of all in the live stock field. This is because of the fact that every crop grown has a certain amount of waste or by-product, which can be very profitably by hogs.

The cooperative features of the industry are limited to the veterinary association and shipping associations. A breeders' association is in the making at the present time which promises to play a very important part in the future of the industry.

The future development of the industry depends on the system of cropping followed. Whatever change is made in this will tend toward a readjustment of the hog raising system to meet it.

#### Sheep and Beef Cattle.

These two industries are so closely related as to methods of handling, that they can be covered under one heading. These industries are limited at the present time by the amount of available range. The greater part of the range is on the forest reserve and subject to the regulations of the Forest Service. It is quite noticeable that the range is gradually being brought to a basis of advantage to the greatest number of people. More small land owners are getting range each year which calls for organization to take care of the herding of the small bands belonging to the farmers. Each year shows a slight increase in number of cattle and sheep owned, with a corresponding increase in carrying capacity on the range, due to the necessity for more efficient handling.

The stock of the large owners has been somewhat reduced on account of the uncertainty of conditions, but this reduction has been largely picked up by the smaller owners.

The beef cattle breeds are confined to Herefords and Short-horns. A marked improvement is apparent each year in the class of bulls turned on the range. The foundation breeding of sheep is largely Rambouillet and Hampshire. There is great need for better rams than are now used. Some improvement, however, is noticeable each year.

The stockmen are feeding better every year. They are beginning to realize that in order to get better results in calving and lambing their females must be in better condition. This matter needs to be worked on and encouragement toward this end fostered. It has been the practice to plan on three-fourths to one ton of hay per cow for the winter. This should be increased to one and one-half tons.

At the first representative sale hay brought \$13. per ton, which was somewhat lower than the price prevailing the same time last year. That silage in connection with hay is a most economical and satisfactory feed for cattle and sheep is becoming generally known to the stockmen.

A considerable number of cases of hemorrhagic septicemia occurring in cattle and sheep have been successfully treated, through vaccination, by the local veterinarians. Blackleg in cattle has been prevalent in some cases, but the local veterinarians have also very ably handled this situation.

Marketing of these two classes of live stock has been done largely at Kansas City, although some interest is being shown in the Denver market. Cooperative shipping of cattle was first carried on through this office, but later turned over to the shipping associations. After the regular shipments are out of the way this fall, there will be considerable need for work in fostering these shipments and getting them on a sounder basis. This has been accomplished by announcing in the papers that odds and ends would be listed for shipment.

The cooperative features of these industries have been along the line of cooperative grazing. As yet only an association for the grazing of sheep has been organized. It is probable that the interest will be sufficient to form an association next year for the grazing of cattle. The sheep association was formed on the Red Canyon range for the handling of 1400 head and the work has been carried on this season. This matter needs further attention. Circular letters and newspaper articles have been prepared on this subject and considerable interest has been aroused. It is suggested that this be made a leading project for another year.

By reason of the limited range available, the future development of the industry depends not so much upon, more, but better stock.

Activities of this office for the period January to September, inclusive, were as follows:

Number of farm visits made,.....	334
" " calls for service and information...	492
" " meetings held,.....	8
Attendance at meetings,.....	560
Number of lectures given on live stock,.....	9
Range price of butterfat,.....	\$0.36 to \$0.70
Range price of hogs, f.o.b.,.....	\$13. to \$21.50
Number of herds tested for butterfat,.....	18.

---

L 1/ Mr. Lindgren resigned at the end of September, 1919, and his report covers only the first nine months of the year.

---

---oo---

WEEKLY BULLETIN  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.



Vol. XVII.

January 17, 1920,

No. 3

Western Irrigation Agriculture.

Field Notes.

San Antonio,

The week ending January 3 was one of fair weather and moderate to rather cool temperatures, the maximum being 74, the minimum 32, and the greatest daily range 42.

The fields were in a condition for work every day. The remainder of the third crop of sorghum was hauled in and plowing of sorghum plats finished. Those plats which were in oats this year, and which are yet fallow, were disked. Plats A-4, 5 and 8, and field A-3 were also disked. Cotton stalks on C-3, C-5 and part of B-4, were mowed. Cotton stalks on F-3 were burned. The fences around the grain rust work in the nursery was finished. Some time was spent grinding feed, weighing steers, cleaning grounds, and repairing machinery.

Demonstrations on Reclamation Projects.

Field Notes.

Huntley.

During the week ending January 10, twelve conferences were attended, four farm visits were made and thirty-six samples of milk were tested.

Requests for advice about live stock diseases continue frequent. A careful investigation was made on one farm where eight cattle had died within a few days. The findings in several autopsies, together with existing conditions on the farm, led to the conclusion that a temporary shortage of water had brought on digestive troubles which caused the losses, and that greater care with water and feed should prevent further loss.

A half day was spent at the Huntley Experiment Farm, securing information about the results of experiments with corn silage and sunflower silage.

## Huntley (Continued).

The Wheatly Grange was addressed relative to the Farmers' Short Courses, at Bozeman, and the Farmers' Institute to be held at Worden in March.

## Minidoka.

During the week ending January 3, four farm visits were made and 47 office calls were received.

One day was spent off the project at Pocatello and Salt Lake City, conferring with Dr. Henderson, E. F. Rinehart, A. C. Cooley, and men of the Western Office of the Dairy Division.

Locally, considerable time was given to advertising the seed show and live stock sales at Pocatello, which will be held the week of January 12 to 16.

Committee meeting was held regarding the formation of a calf club in Minidoka County and tentative plans are being made for the showing of films on raising Shorthorn cattle and sheep in Declo, Burley, Rupert and Paul.

O. E. Dockstader, a new man on the Minidoka Project, has 21 head of registered Duroc swine from the Richards stock. His latest purchase is an \$800. boar.

## North Platte.

During the week ending January 3, there were twelve farms visited for general live stock work. Eight of these were visited at the requests of the owners. Most of the field work was devoted to the dairy industry, in getting records on milk production and in giving assistance generally in dairying. One conference was held with the officers of the Dairy Association.

Considerable time was devoted to preparing the annual report of the work done during the past year and in getting together data in connection with the live stock industries of the valley.

## Shoshone.

During the week ending November 29, twenty-two office calls were received, and twenty-four other conferences were held.

A cooperative shipment of three cars of sheep and two cars of cattle was made. Twenty men cooperating in the shipment.

Considerable attention was given to the management of the cooperative creamery. Cream is received at any time, and paid for as soon as it can be tested. The market price is being paid. It seems that unless the supply drops still lower, the creamery will probably be able to operate successfully.

## Shoshone (Continued).

During the week ending December 27, twenty-four office calls were received, and sixteen other conferences were held.

The stockholders of the creamery are considering the purchase of a good Holstein bull to be kept at the creamery for public service. A number of patrons who live within two miles of the creamery milk too few cows to afford the private ownership of a good bull, so they are using ordinary bulls. It is thought that the bull can be used enough to pay expenses.

A meeting of the directors of the Powell Breeding Association was held in this office to consider the sale of the stallions and the dissolution of the company. The company has been able to get men to take good care of the horses, but collections have been neglected and not enough attention has been given to soliciting business.

The creamery ice house was filled this week preparatory to making butter and ice cream.

\*\*

## MISCELLANEOUS ITEMS.

Mr. A. C. Cocley, in charge of the Office of Demonstrations on Reclamation Projects, arrived in Washington, D. C., on the 16th. He expects to remain here for the next month or two.

Mr. H. K. Dean, of the Umatilla Experiment Farm, reached Washington, D. C., on the 15th.

Mr. James A. Holden, of the Scottsbluff Experiment Farm, arrived in Washington, D. C., on the 12th.

Messrs. Dan Hanes and Beyer Aune, of the Huntley and Belle Fourche Experiment Farms, respectively, have been in Washington for the past month. Mr. Aune expects to leave for Newell on the 20th.

Mr. E. G. Noble, Superintendent of the Yuma Experiment Farm, arrived in Washington on the 17th.

----COO----





**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

PERSONNEL

WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Beyer Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSBLUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Barstow, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

DEMONSTRATIONS ON RECLAMATION PROJECTS

A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SHOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
....., .....	Agriculturist
<u>UNCOMPAGRE RECLAMATION PROJECT</u> , .....	Montrose, Colorado
H. A. Ireland, .....	Agriculturist
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg., Yakima, Wash.	

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

January 24, 1920.

No. 4

Western Irrigation Agriculture.

Field Notes.

San Antonio.

The week ending January 10 was one of rainy weather. The precipitation was almost double the normal rainfall for the whole month, amounting to 1.36 inches. The maximum temperature was 74, minimum 31, and the greatest daily range 43.

No field work was done. Labor was employed in cleaning up about the grounds and buildings, repairing the greenhouse, cutting wood, hauling coal, grinding feed, threshing Salvia hispanica, and burning brush.

The week ending January 17 was cloudy and rainy during the first part with clearing weather the last two days. The total precipitation was 1.63 inches. The maximum temperature was 73, minimum 36, and greatest daily range 35. The weather was favorable for the growth of winter crops.

No field work was possible. The seed house was cleaned up and mice killed. One stack of sorghum hay was stored in the barn and one stack of Sudan hay was baled and stored for feeding steers when pastures will not carry them.

The steers were brought in from oat pasture, weighed, and put into dry lot. This was done because the pasture was getting short and because it was so muddy that the tramping of the steers was injuring it. The oats, though having plenty of moisture, have made rather slow growth, especially when compared to the growth of oats during the winter of 1918-1919. Rust has also been very bad.

Other work performed included cleaning and repairing auto-truck, repairing harness, and cleaning up stack yard.

## Demonstrations on Reclamation Projects.

## Field Notes.

## Yakima.

No farm visits were made during the week ending December 13. Four office calls were received, and a number of short conferences were held.

The weather during the whole of the week was very severe, snow falling the first part of the week with the temperature reaching as low as 25 degrees below zero the last three days.

Some time was spent visiting business men of Yakima who own land and have interests in sheep and cattle on the Tieton project. A circular letter was prepared and mailed out for the purpose of securing information relative to the number and kind of dairy stock desired by the farmers on the project.

Fourteen farm visits were made, two conferences were held and four office calls were received during the week ending December 20.

The Battles and Congdon farm, southwest of Yakima, was visited on Monday. This famous herd of Angus cattle had been recently tested for tuberculosis, and it had been reported that a large percentage had reacted. It was found, however, that the report was entirely erroneous. This herd had been tested for tuberculosis every year for a number of years and two years previous to this a small number had shown a slight reaction, and at that time there were a few that again reacted. All cattle on retest had been isolated and kept away from the non-reactors. No new reactors were found this year as had been reported. It seemed to be one of those unfortunate circumstances that occasionally occur where a badly informed and unreliable newspaper reporter had gotten things badly mixed and had written a very misleading article which appeared on the front page of the local paper.

A visit was also made to the Bannister farm. Mr. Bannister is feeding out carloads of feeders cattle for the market this year. Some assistance was given him by way of recommendations for feeding and watering his stock.

On Wednesday the Holstein herd of Todd & Son was visited. Mr. Todd has seven cows on official test at the present time. Owing to two of his cows being afflicted with milk fever, they have not been put on test.

Yakima (Continued).

The remainder of the time this week was given to visiting farmers in the Cowichee and Tieton districts, with the purpose of creating an interest in cow testing and replacing the unprofitable cow with better stock.

North Platte,

During the week ending January 10, there were eight farms visited for general live stock work. At one of these farms a small drove of eight head of hogs were vaccinated against cholera.

Two days were spent in the office with general office work and making out the annual report.

A business meeting of the Dairymen's Association was attended on Friday afternoon, at which eight of the board were present.

During the week ending January 17, nine farms were visited for general livestock work. The first two days of the week were spent in office work, principally in completing the annual report.

On Wednesday morning the farm of J. M. Bennett, near Mitchell, was visited to see a band of sheep on feed, ten of which had died during the preceding night. These dead sheep were postured and found to have died from the effects of poison. Mr. Bennett stated that some second cutting hay had been fed the day before which had been poisoned heavily in the field with grasshopper poison. This hay was removed from the racks and no sheep have died since.

Two cases of sore mouth among pigs were treated during the week.

-----oOo-----

11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
1000

WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JAN 31 1920

PERSONNEL

WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Beyer Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSELUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Barstow, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

DEMONSTRATIONS ON RECLAMATION PROJECTS

A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SHOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
.....	Agriculturist
<u>UNCOMPAGHRE RECLAMATION PROJECT</u> , .....	Montrose, Colorado
H. A. Ireland, .....	Agriculturist
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg., Yakima, Wash.	

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y. B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

---

Vol. XVII.

January 31, 1920.

No. 5

---

Western Irrigation Agriculture.

Field Notes.

Newlands.

The dead, diseased and otherwise undesirable trees were removed from the orchard during the week ending January 24.

Manure at the rate of 16 tons and gypsum at the rate of one ton per acre have been applied to field G.

About 40 twelve-inch and sixteen-inch tile were made and used to replace decayed wooden culverts.

The outside and inside of the greenhouse was white-washed and some repairs made in the interior. The work harnesses were oiled. Most of the irrigation ditches have been cleaned and made ready for spring use.

It has not been possible to do much field work since the very cold weather occurring in November.

San Antonio.

The week ending January 24 consisted largely of rainy weather. The first two days only were fair. No field work was done. The total precipitation was 1.02 inches. The maximum temperature was 80, minimum 37, and greatest daily range 27.

Labor was employed at odd jobs about the grounds and buildings. The remainder of the brick for the cesspool was hauled. Several bales of cotton which had been standing outside under a canvas were moved under the shed.

Demonstrations on Reclamation Projects.Field Notes.Belle Fourche.

During the week ending January 10, eight office conferences were held and six farm visits made. Five meetings of farmers were addressed in connection with the "Better Sires - Better Stock" campaign. These meetings were held in conjunction with the county agent and extension livestock specialist from the State college. The total attendance at these meetings reached 203. Stereopticon pictures were shown and photographs and charts were exhibited. Feeding problems were discussed and, as the meetings were the first held by the new county agent, the farm bureau movement was discussed at some length. The farmers on the project showed much more interest than those from any other section of the county. In every case the largest crowds of "grown-ups" were present at project town meetings.

During the week ending January 17, nine farm visits were made and twelve office conferences held.

One herd of polled Herefords recently brought to the project was visited and examined.

Inquiries were received relative to modern hog houses, sheep feeding equipment and the location of forty head of feeder steers.

During the week a meeting was attended, at which were members of the Black Hills Breeders' Association and the Directors of the Belle Fourche Commercial Club. The object of the meeting was to discuss the proposed building of a livestock sales pavilion and the holding of a livestock show in connection with it. An organization meeting was decided on for February 18. Speakers will be present and it is expected that plans will be formulated for the erection of a pavilion. This building is expected to cost approximately \$10,000.

Huntley.

During the week ending January 17, there were two conferences and five requests for assistance. Two farm visits were made.

January 13 to 17 was spent at Bozeman, Mont., attending the Farmers' Conference and Institute and the Irrigation Conference and Institute. A splendid program had been prepared for those interested in both lines of work. At the general meetings the two chief speakers were Dr. Elwood Mead and Dr. Liberty Hyde Bailey. Owing to drouths over a

Huntley (Continued).

large part of Montana for three years a great deal of interest in irrigation was evident. One of the main ideas developed and emphasized at the Irrigation Institute was that the State should provide funds to enable the Agricultural College to make a survey of lands that it may be known for what purpose they are adapted, and determine the sources and amount of available water that it may be known where and how to apply such water. These surveys were deemed essential to the development of a definite and comprehensive policy.

Minidoka.

During the week ending January 10, eleven farm visits were made, seventy-five office calls were received, two meetings attended, with a total attendance of 90, one of them addressed with an attendance of 50.

One case of blackleg was discovered on the project and treated by a local veterinarian.

At the meeting of the dairy committee of the Minidoka County Farm Bureau, it was decided to limit the work for the time being to three things, namely; institute testing and record-keeping plans for the patrons of the Rupert Cheese Factory and others interested in knowing exactly what their cows are producing, encourage a dairy calf club, as well as a Shorthorn calf club in Minidoka County; and plan immediately to conduct an extensive silo excursion over the two counties and devote a good deal of time to the development of various types of silos on the Minidoka project during the coming year.

During the week ending January 17, there were 66 office calls, two farm visits were made and the balance of the time was spent attending the livestock and agricultural convention at Pocatello, Idaho.

The ninth annual meeting of the Seed Growers', Livestock, Engineers', Irrigation and Homemakers' societies of Idaho held a very successful and instructive session at Pocatello, last week.

The first day was devoted to engineering problems. Many men of prominence from different parts of the State were in attendance. Several noted engineers gave instructive talks on the various engineering problems.

Tuesday was devoted to irrigation and irrigation problems. The possibilities of reclamation for Southern Idaho was thoroughly discussed. It was shown that there was sufficient water running to waste to water several hundred thousand acres if properly stored and handled. Much stress

Minidoka (Continued).

was laid upon the conservation of irrigation water. It was further shown that many acres of land was ruined by excessive irrigation.

The livestock sales were fairly well attended. The Duroc-Jersey breed of hogs topped the market for Idaho. The average sales of all Durocs were \$280.82. One fourteen-months old gilt sold for \$735.00, while another sold for \$550.00. The Poland China breed of hogs did not sell well.

The Hereford cattle that were put in the sales were not sold because only a few buyers were present. Of the 47 Shorthorns consigned at Pocatello, from all sections of the State, a cow owned by Frank Sullivan's Sons topped the sale, bringing \$475.00.

Newlands.

During the week ending January 3, four days were spent away from the project attending a conference of western extension leaders at Berkeley, California. One very interesting and helpful phase of the meeting was an all-day automobile trip through several counties in which extension work is being carried on. During the day one community center was visited where a farm bureau center building had been erected. A business meeting of this branch of the County Farm Bureau was conducted, thus giving the visitors an opportunity to observe the activities of the organization. The conference was very beneficial in that it served to widen the acquaintance among extension workers and offered an opportunity for exchanging views on various subjects.

On Saturday of the week a trip was made across the bay to San Francisco to visit a branch house of the General Fire Proofing Company, for the purpose of gathering information on the methods of constructing re-enforced concrete silos, by the use of expanded metal. This company puts out a product called trusset which is an expanded metal similar to the expanded metal lath. This metal furnishes a reinforcing about one inch thick, and is furnished in a rust-proof composition, and is curved to order for any diameter of silo. This expanded metal which comes in sheets, is put in position, wired together, temporarily supported with a few upright timbers, and plastered inside and out until a three inch wall is secured.

One of the big difficulties with monolithic concrete silos is the cost of forms and the amount of material necessary. Since no forms are necessary in constructing with expanded metal, and since the amount of material is greatly reduced, it is expected that the method of construction may prove attractive to this locality.

Newlands. (Continued).

The cooperative marketing of hogs has required some attention during the week ending January 10. Arrangements were made for a cooperative shipment the first of next week. The method of cooperative marketing of hogs has been changed somewhat from earlier arrangements. Previous to the present winter shipments, it was the practice to assemble the hogs at the shipping point, mark the individual consignments and ship to the market offering the highest price for the day the hogs were to reach market. This necessitated the time and expense of the caretaker to accompany the hogs and look after the sales, and the shippers were obliged to take all the risk in the way of delays in transit resulting in excessive shrinking and in any loss of animals by accident. Under the present arrangements, the two packing companies at Reno, Nevada, are notified when a shipment will be made and bids are asked for prices on the various grades f.o.b. shipping point. The result has been that the prices offered have been the market price less freight, the bidder being willing to assume any loss from shrinkage and the deal is closed when the hogs are weighed over the scales at the shipping point. The buyer sends a representative to receive the shipment and make settlement. The big advantage to the rancher in this method is in avoiding the expense of a representative to accompany the shipment and in avoiding the loss due to shrinkage in shipping to these markets, which amounts to about 75¢ a hundred pounds live weight. If it were not for the fact that fat hogs are scarce in this state, with the prospect of a still smaller supply, the packers would no doubt not bid so well.

There were received during the week 31 calls for assistance and visits were made to twelve farms.

North Platte.

During the week ending January 24, eight farms were visited for general livestock work. Two of these farms were visited to see sick hogs, which were found to be affected with sore mouth. These were treated with iodine. One farm was visited for sick cattle. Some general dairy work such as balancing rations was done during the week.

On Thursday the pure-bred Hereford sale of E. von Forrell was attended at the Sale Pavilion in Scottsbluff. The cattle did not sell for nearly as much as was expected, twenty-eight head selling at an average of \$380. per head. There were 50 head listed for sale, but the owner stopped the sale when the 28 head had been sold.

Shoshone.

During the week ending January 10, one farm visit was made, nineteen office calls were received and ten other conferences were held.

A cooperative shipment was made of a car of sheep, four men cooperating.

A meeting of the board of directors of the Shoshone Breeding Association was held. This association owns a Shire stallion and has paid expenses this year. The stallion is cared for by one of the stockholders, and the collections are attended to by another stockholder. If there had been much interest in horse breeding on this project the past year, this association, with its public spirited officers, would have been quite successful.

The proposition of the creamery making ice cream this summer was discussed with dealers who would buy it and with farmers who might supply sweet cream. Prospects for making it this summer seem good.

During the week ending January 17, one farm visit was made, twenty office calls were received, twenty-three other conferences were held and one milk sample was tested.

The returns on the cooperative shipment of sheep made last week were received. The shipping expense, not counting shrinkage, was 87 cents per hundred pounds. The prices received were as follows: lambs, \$12.50, \$14.00 and \$16.00 per hundred; ewes \$9.25 per hundred; and bucks \$7.00 per hundred.

A new firm has started in competition with the cooperative creamery. It expects to handle poultry, eggs, cream, seed potatoes and coal. The board of directors of the creamery received an offer from the firm to rent the creamery building, but decided to refuse the offer and to stay in business, hoping to make butter and ice cream this summer. It was also decided to handle grass seed.

A cooperative shipment of a car of cattle and a car of sheep was arranged for next week.

----oo0oo----

9 W



WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

FEB 14 1920

## PERSONNEL

### WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Bever Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSBLUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Barstow, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

### DEMONSTRATIONS ON RECLAMATION PROJECTS

C. A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SHOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
<u>UNCOMPAGRE RECLAMATION PROJECT</u> , .....	Agriculturist
H. A. Ireland, .....	Montrose, Colorado
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg.,	Yakima, Wash.

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

February 14, 1920.

No. 7

Western Irrigation Agriculture.

Field Notes.

San Antonio.

The week ending February 7 was fair and field work was carried on from the first to the last day. The maximum temperature was 73, minimum 43, and greatest daily range 27.

Plowing was continued, fields C4, B4, and C3 being completed, and part of AB-8 plowed. Flax varieties were seeded on A3. Plat B5-2 was partly manured. Cotton stalks were burned on B4, C5, and AB-8. Part of the stalks on C6 were mowed. Pruning of the orchard trees was continued. The erection of a new fence along the east side of the palm garden was begun.

Demonstrations on Reclamation Projects.

Field Notes.

Belle Fourche.

During the week ending February 7, eight office conferences were held; no farm visits were made. The greater part of the time was spent in the office working on the annual report.

One newspaper article was prepared for circulation to papers in the Belle Fourche trade territory regarding the meeting of livestock men to be held at Belle Fourche on February 18. This meeting was called to discuss the organization of a show and sales pavilion at Belle Fourche. A \$10,000 pavilion will likely be erected during the season.

Huntley.

During the week ending February 7, thirteen requests for assistance were received and two farm visits made. There were 22 conferences.

Huntley (Continued).

Thirteen samples of milk and one of cream were tested. Letters giving information relating to feeding and keeping records were sent to several dairymen who are assisting the agriculturist in determining the cost of milk production.

On Saturday, in conference with Mr. Brossard, County agent, it was decided to use a questionnaire for the purpose of finding out what subjects the people wish to have discussed at the Farmers' Institute. A meeting of Farm Bureau committeemen has been called for February 12, to consider matters relating to the Institute.

Newlands.

During the week ending February 7, there were received 38 calls for assistance and eight visits were made in response to calls. Some time was devoted to arranging for a tuberculin test to be made by the State on dairy herds. Eighty head of cattle were tested without finding a reactor.

During the week assistance was rendered in selecting dairy cattle for purchasers. Two new dairy herds were added to the project. One of these consists of a herd of twenty first-calf Holstein heifers, which were purchased at a price of \$112. each. A second herd of thirty-four head of mixed Jersey, Holstein and Shorthorn cattle was purchased at an average price of \$135. This herd came from an adjacent valley. A number of other dairy animals changed hands on the project, showing a very healthy sentiment towards dairy-ing.

One of the project ranchers attended the Denver live-stock show and purchased two carloads of registered Short-horn bulls ranging in ages from one and one-half to two and one-half years old. The bulls were landed in the valley during the past week and are being offered for sale to farmers interested in beef cattle. These two carloads of bulls show very excellent quality and will no doubt be a very valuable acquisition to the valley.

Mr. G. C. Kallenbach, who has one of the highest producing dairy herds of the valley, and who is one of the few dairy men having a silo, reports that after three weeks feeding of ensilage this year, he has been unable to notice any increase of production, but on the contrary thinks that his production has dropped off two or three gallons per day for the herd. This same herd showed a slight increase in production the previous year as a result of having added ensilage to the alfalfa ration. The owner attributes these rather disappointing results to the fact that last year's corn had to be harvested before it was sufficiently matured to give best results. After Mr. Kahlenbach's experience of two years in supplementing alfalfa hay with silage, he feels that when first-class alfalfa hay is fed without limit, a

## Newlands (Continued).

supplement of corn silage will not add to its efficiency for milk production in the same way that corn silage adds to the efficiency of rations that are available in sections where first-class alfalfa hay cannot be produced.

Subsequent experience along this line will be very interesting as other owners of good dairy herds are expecting to erect silos during the coming season.

## North Platte.

During the week ending February 7, ten farms were visited for general livestock work. Four of these farms were visited at the requests of the owners to see sick hogs. At three of these places the hogs were found to have minor ailments and at one farm cholera was found. There were 57 head at this place vaccinated. Several of the members of the dairy association were visited during the week for general dairy work and assistance was given them in a general way.

There has been a general drop in the price of hay of late, due to the milk weather and the fact that many of the sheep feeders are shipping. The price has dropped from \$20. in the stack to about \$16. Cattle feeders have shipped very few cattle, the price at present being prohibitive, and the cattle are not yet in the best of marketable condition. There are few brood sows being kept over for spring litters.

## Shoshone.

During the week ending February 7, four farm visits were made, forty-two office calls received, and ten other conferences held.

The Shoshone Livestock Association, which sends the project cattle to the forest reserve, met in this office, elected officers for the coming year and discussed methods of improving the handling of the cattle. Every one was in favor of getting the cattle out of the reserve by October 1st, so as to avoid all danger of getting caught in storms. The directors met with the agriculturist later in the week and received bids for herding. Three bids were received. The man selected has 200 head of his own cattle. He is to receive 75 cents per head per month if he stands no loss, or 90 cents per head per month if he stands two-thirds of the loss on the basis of the value assessed by the board of directors. The ranger who has charge of that section of the range where the project cattle will run, met with some of the members Saturday at the office of the agriculturist. He emphasized the importance of having good

## Shoshone (Continued).

bulls. He reported that men who run cattle near this herd object to the quality of bulls previously used as the cattle mix more or less.

A cooperative sale was made consisting of two cars of stock hogs at \$11.50 per hundred f.o.b. Powell, and of one car of mixed fat hogs at \$12.50 per hundred f.o.b. Powell.

A buyer from Texas called about buying ewe lambs or ewes bred for early lambs but none was found at a price that he cared to pay. He had expected to find stormy weather and a shortage of feed, but he found good weather and the sheep men well provided with feed and expecting excellent ranging conditions next summer.

A prospective buyer for the cooperative creamery called but no deal has been made to date.

## Uncompahgre.

Mr. H. A. Ireland reported for duty during the week ending February 7, to take up the work formerly conducted by Mr. H. A. Lindgren.

Most of the week has been spent in the office in looking through Mr. Lindgren's files, reports, etc., the condition of the roads, due to melting snow, making travel impracticable.

On Tuesday the annual meeting of the Water Users' Association, at Olathe, was attended with the project manager, Mr. Pyle. Probably 350 water users were present. Directors were elected and routine business transacted. An unusually good spirit for such an occasion seemed to prevail. Mr. Ireland was introduced by the Chairman and was very cordially received, probably for the sake of Mr. Lindgren, who seems to have left a very enviable reputation behind him, his work being unanimously highly commended.

On Wednesday there was another meeting at Olate at which about 30 were in attendance. This meeting had been arranged by County Agent King for Dr. E. N. Stout, of the Denver station of the Bureau of Animal Industry, who spoke on common diseases of farm animals. County Agent Yeager of Delta was also present. After the meeting it was necessary to take Dr. Stout and Mr. Yeager to Delta. The trip rather forcibly impressed the need of some good roads propaganda on the Uncompahgre Project.

## Agricultural Development on the North Platte

## Reclamation Project in 1919.

- - - - -

By George O. Unruh.

General Statement.-- The North Platte project now includes 1300 farm units, with an area in crop on the irrigated land of 85,690 acres, a valuation per acre of \$45.71, and a farm crop value of \$3,012.87. In the year 1918, with the same number of farm units, the area in crop on the irrigated land was 85,308 acres, a crop value per acre of \$36.35, and a farm crop value of \$2,367.

The crops on the entire project for the year were good and the prices received for all farm products were very satisfactory. There were no damaging hail storms, high winds, or lack of irrigation water to retard the growth of the crops in any way. Beet moths threatened to do considerable damage to the beet crop at the beginning of the season, but they were soon destroyed by the use of poison spray. Grasshoppers also did considerable damage in the early spring to the young alfalfa, but they were soon gotten rid of with poisoned bran put in the fields and along the ditch banks. Without an exception, the yields of all the farm crops raised on the project were heavier than in any previous year, and the prices were higher.

While the year 1919 was exceptionally good on the project for the grain farmer or the man selling dairy products, it was far from good for some of the men who fed livestock. A very large percent of the cattle shipped from the valley, that had been fattened during the winter of 1918-19, lost the feeders money, in some cases large amounts. As a result of that experience there are not more than one-half as many cattle on feed here this winter as there were a year ago.

The man having hogs made money; those who sold early in the fall receiving a higher price than ever before. The decline during the past three months seems to have been very discouraging to most of the men interested in hog production, and as a result of these recent low prices the number of brood sows being carried over this winter is much smaller than a year ago.

The sheep feeders have made very good profits during the past year; in a great many cases the fat lambs sold at double the money paid for them as feeders. At present prices the outlook is good for these men to make as large profits on their lambs as they did the past year.

## General Statement (Continued).

More attention was given to the better development of the dairy industry on the project than to any other phase of livestock work. Assistance was given in planning dairy barns, silos, seeding pastures, testing cows for milk production, keeping milk records, and in improving the Dairy-men's Association. Attention was also given during the year to cattle, sheep, and swine feeding tests and demonstrations; the treatment of contagious and infectious diseases among stock; the selection and importation of breeding stock and feeding cattle; to breeders associations; livestock exhibits at the county fair; and to boys and girls pig clubs. Several farmers' meetings were held during the year where various phases of the livestock industry were discussed, and a number of articles were written for the newspapers relative to the care and management of livestock.

The table below shows the number of livestock on the project at the end of each of the last six years, not including the stock brought in for winter feeding:

Year	Dairy Cattle	Swine	Sheep	All Cattle	Horses
1914	1521	22145	605	3190	4610
1915	2218	24928	2254	6941	5910
1916	3046	25123	1401	8080	6398
1917	3345	16550	1000	9380	6800
1918	3400	15250	3700	8500	7732
1919	3510	11420	4100	7100	7427

The Dairy Industry.--Improvement of the dairy industry during the past year has given gratifying results, not so much in the increase in numbers of dairy cattle, but in the improvement of dairy herds, the building of silos and dairy barns, and the improvement in general dairy management. Assistance has been given in securing a Federal veterinarian to test three herds for tuberculosis and arrangements are being made for a number of other herds to be tested, so as to bring them in the accredited list. Assistance was also given in getting an official tester for milk production out from the State college on four different occasions to test cows in three of the pure bred herds for official records in the seven day test. There has been a number of cattle treated and vaccinated against various diseases during the year.

## North Platte - The Dairy Industry (Continued).

The following table shows the number of cattle treated for contagious diseases during the year:

<u>Month</u>	<u>Number</u>
January.....	210
February.....	150
March.....	85
April.....	60
May.....	9
June.....	30
July.....	48
August.....	23
September.....	<u>380</u>
TOTAL.....	995

The Dairymen's Association, which was organized through this office more than a year ago, has met several times during the year. It has done a number of things which have been of benefit to the dairy industry in the valley. Several of the members have cooperated in the purchase of pure bred cattle and bulls, and have been of mutual help to each other in the general improvement of the dairy industry. This association made the county fair a greater success than ever before with their exhibits.

This exhibit of dairy cattle was one of the best of its kind in the state, according to the judge of the cattle, who had attended many of the county fairs. There were 53 entries of Jerseys and Holsteins, about equally divided in number; all of the animals were fitted and groomed into the pink of condition and the competition in several of the classes was keen. A large number of dairy pamphlets were given out at the dairy barn and also at the booth where dairy products were exhibited.

During the year purchases were made by the Scottsbluff Creamery, as follows: 131,710 pounds of butter fat, at an average price of 60 cents per pound, or a total value of \$79,026.00; 91,350 pounds of whole milk at three cents per pound, or a total value of \$2,740.00.

The dairy cattle imported during the year included 15 pure bred cows, valued at an average of \$400. each; 4 pure bred bulls, valued at an average of \$400. each; 122 high grade cows, valued at an average of \$160. each; and 17 calves valued at an average of \$40. each.

## North Platte (Continued).

The Swine Industry.--While the swine industry continues to be one of importance on the project, it does not hold the place it held a few years ago, although during the past year there has only been a small decrease in the number as compared with the decrease two years ago. The general tendency is for each farmer to keep a few good brood sows and raise the pigs instead of buying shoats in large numbers and feeding them out as was practiced a few years ago. There is no question but that the quality of hogs on the project has improved greatly, 90 percent, or more, of the boars used here now being pure bred. Most of the farmers having hogs to sell made some money on them this year, but as most of the hogs were ready for market during the last three months of the year when the price was low, the profits, if any, for the year were small.

There was a very good exhibit of hogs at the county fair this year, and a good attendance at the hog pavilion all during the fair. The Duroc-Jersey breed had the greatest representation, about two-thirds of the number shown being of that breed, with the remainder Poland Chinas.

As compared with last year the hog shipments have decreased. This was due to the farmers selling before the hogs matured, owing to the high price of grain required to finish them.

Comparison of shipments of hogs, by months, for the years 1916 to 1919, inclusive:

	Number of cars per month.					Value per car (average).			
	1916	1917	1918	1919		1916	1917	1918	1919
Jan.	42	65	22	16		\$1260	\$1900	\$2822	\$2867
Feb.	63	64	24	18		1395	2180	2790	2867
March	52	53	26	21		1647	2576	2890	3207
April	56	33	27	23		1470	2780	2890	3264
May	38	30	27	21		1705	2810	2686	3332
June	51	21	20	12		1447	2760	2720	3417
July	58	34	28	14		1903	2714	2975	3655
August	35	37	9	11		1785	3070	2749	3298
Sept.	38	32	20	13		1874	3303	3230	2771
Oct.	21 $\frac{1}{2}$	..	10	6		1700	....	2848	2431
Nov.	28	..	22	11		1735	....	2873	2414
Dec.	29	..	20	14		1758	....	2924	2244
<b>Total</b>	<b>511<math>\frac{1}{2}</math></b>	<b>369</b>	<b>255</b>						
<b>Average</b>	<b>42.6</b>	<b>41.0</b>	<b>21.2</b>			<b>\$1634</b>	<b>\$2561</b>	<b>\$2870</b>	<b>\$2939</b>

The above values are based on an average weight of 17,000 pounds per car. The shipment record is for the whole valley, but it is estimated that about 65 percent of the shipments were from the project lands.

## North Platte - The Swine Industry (Continued).

Corn was the principal feed, although a large amount of barley and oats was fed this year as a substitute for corn because of the difference in price. Some shorts was fed to young pigs but only to a small extent, because this feed was not obtainable at all times.

The practice of "hogging down" corn has grown to such an extent that on all of the farms were hogs are raised in any numbers the corn is "hogged down" instead of being husked. This method of feeding has proved to be an economical one, and especially so where there is an alfalfa field accessible to the hogs while they are harvesting the corn.

The average prices of commercial hog feeds on the project this year have been as follows: Corn, \$2.90 to \$3.10 per cwt; Barley, \$2.60 to \$2.75 per cwt; Shorts, \$2.70 to \$2.90 per cwt; Bran, \$2.15 to \$2.30 per cwt.

Canker, sore-mouth, pneumonia and cholera have appeared in a number of herds on the project this year, but the loss from any or from all of these diseases has been small.

The following table shows the number of cases of hog cholera, and other diseases, treated during the year, the months in which they occurred and the death loss:

<u>Date</u>	<u>Vaccinated</u>	<u>Treated for disease.</u>
Jan.	185	4
Feb.	350	5
March	...	80
April	...	90
May	...	80
June	55	349
July	156	80
August	260	..
Sept.	410	..
Oct.	18	..
Nov.	103	..
Dec.	746	80
Total.....	1537	429

The Beef Cattle Industry.--While the number of dairy cattle surpassed the number of beef cattle on the project, the breeding of registered Herefords was of considerable importance. There are at the present time three large herds of registered Herefords on the project and these herds supply most of the breeding animals for the range, which lies to the north and south of the valley. The exhibit of Herefords at the County Fair was given the credit of being one of the best in the State, there being 50 head on exhibit.

## North Platte - The Beef Cattle Industry (Continued).

The feeding of cattle for market is now one of the most important livestock industries on the project. During the late fall and winter, large numbers of cattle are brought in from the range, and the livestock markets, for winter feeding. All of the crops are raised that go to make up a balanced ration for fattening cattle, and a great many of the big steers that are shipped in the spring top the market. Beet growing and cattle feeding are an ideal combination, for the cattle are turned into the fields in the fall to eat the beet tops, or they are put into corrals and the tops are hauled to them. The cattle near the sugar factories are fed the wet beet pulp, along with beet tops and alfalfa hay, but, as the cost of hauling the wet pulp from the factories to points at a distance of more than five miles, is prohibitive, dry beet pulp is substituted for the wet pulp where the cattle are more than five miles from the factories. The cost of the wet pulp from the factories is \$1.00 per ton, and this pulp contains 10 percent of dry matter. The cost of the dry pulp is \$35. per ton and contains practically no moisture, so that when the cost of hauling or shipping is considered, there is very little difference between the cost of the dry and wet pulp. According to the records kept on feeding sheep corn and dry pulp, the latter gave just about the same results as the corn.

In order to keep up the fertility of the soil where beets are grown, it is necessary to return plant food in the form of manure or by plowing under alfalfa. Farmers, therefore, who do not keep any cattle during the winter to consume the roughness on the place and to fertilize the land, are being encouraged to feed stock during the winter, and assistance is given these men in selecting their cattle, making up their feeding rations, and arranging their feed lots. So far, the business has proved very profitable in a direct financial way, as well as in improving the land, and it seems safe to say that the business of cattle feeding has come to stay on this project.

The Sheep Industry.--The number of sheep on the farms of the project is about the same as at the close of 1918, there being 3,700 at that time, as compared with 3,600 at the close of this year, according to the livestock census. In the northwest end of the project, sheep have to a certain extent replaced hogs, but on some of the farm the number of hogs has been cut down and both sheep and hogs are now kept. There was no disease among the sheep on the project and the owners seemed to be well satisfied with returns from them. Some assistance was given during the year in purchasing ewes and bucks.

The feeding of sheep during the winter has come to be an important industry and large numbers are fed on the project every winter. However, there was not the number of sheep shipped into the valley this year for feeding that there was last year. In 1918 there were about 28,000 head on feed on the project; in 1919 there were about 20,000.

North Platte (Continued).

Numerical Statement.--The following is a general summary of the principal activities for the year 1919:

Requests from farmers for service.....	372
Farm visits made.....	631
Callers at office.....	207
Farmers assisted in purchasing or disposing of breeding stock.....	85
Dairy cows brought onto the project.....	1221
Dairy bulls brought onto the project.....	7
Herds of cattle treated for contagious or infectious diseases.....	41
Number of cattle in these herds.....	995
Hogs treated for diseases other than cholera.....	429
Herds of hogs vaccinated against cholera.....	32
Number of hogs in these herds.....	1537
Miles traveled by automobile.....	12,118
Miles traveled by rail.....	1,200

---oo---



WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

FEb 21 1920

## PERSONNEL

### WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Bever Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSELUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Barstow, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

### DEMONSTRATIONS ON RECLAMATION PROJECTS

D. A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SHOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
.....	Agriculturist
<u>UNCOMPANHGRE RECLAMATION PROJECT</u> , .....	Montrose, Colorado
H. A. Ireland, .....	Agriculturist
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg., Yakima, Wash.	

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

---

Vol. XVII.

February 21, 1920.

No. 8

---

Western Irrigation Agriculture.

Field Notes.

San Antonio.

The week ending February 14 was favorable for field work and for the growth of winter crops. The maximum temperature was 74, minimum 31, and greatest daily range 34. Precipitation amounted to .09 inch.

Hauling manure for rotation plats was continued. The remainder of field AB-8 and the Herbst field were plowed. Several plats on lower ends of A-6 and B-6, which heretofore had been too wet, were harrowed. Oats on rotation plats were trimmed along ends to line of stakes. The fence along the palm garden was completed. The trees on E-4 were pruned. Stakes were painted for orchard B-3. The steers were taken from dry lot and put back on oat pasture.

Mr. George T. Ratcliffe arrived at the station Friday to assume the duties of Farm Superintendent.

Demonstrations on Reclamation Projects  
Belle Fourche. Field Notes.

During the week ending February 14, nine farm visits were made and twelve office conferences held.

A combination livestock sale was projected and will be held February 28. A registered Duroc-Jersey swine sale will be held in connection with this sale. Fifty head of well-bred, project-raised gilts and a few boars will be sold to the highest bidder.

Four Duroc-Jersey sows were brought in from Nebraska. These were purchased for \$960. at different sales recently held in that state. They are well-bred and should add materially to the local Duroc-Jersey industry.

Huntley.

During the week ending February 14, two farm visits were made, fifteen requests for assistance received, and fourteen conferences held.

A number of inquiries were received about vaccination against blackleg, and several livestock owners have asked to be supplied with vaccine.

Two Farm Bureau committee meetings were attended at which arrangements were completed for a farmers institute at Worden, March 16. Four specialists from the State Agricultural College will be present and discuss dairy and farm subjects.

North Platte.

During the week ending February 14, ten farms were visited for general livestock work, and fourteen farmers called at the office for information in regard to live-stock.

On Monday morning a large band of some 2,000 lambs on feed were visited for foot-rot and the owner was advised to change these lambs into other corrals and run them through a strong solution of blue vitrol once daily. This solution was made to a strength of 1 to 8 and poured into three troughs, sixteen feet long, which were then set end to end and the sheep trailed through them once a day. By the end of the week there were very few lame ones left in the band. These sheep contracted foot-rot through being fed wet beet pulp.

One herd of hogs was tested this week for cholera; no indications of the disease were found, but the hogs were badly infected with worms. The herds of 76 hogs which were vaccinated against cholera last week did exceptionally well. There were two sick at the time of vaccination and several showed high temperatures. At the end of this week one of the sick hogs had completely recovered, one had died and all of the others were up on full feed.

Assistance was given to one of the prosperous farmers here in planning a concrete silo. He expects to put the silo up this summer and have it ready for his corn crop in the fall.

A few cars of fat lambs have been shipped and very good prices were received, most of them selling at an average of about \$19. What few cattle have been sent to the market have been sold at a loss.

During the week ending February 21, one meeting was held with the Board of Directors of the North Platte Valley Dairy Association, and two meetings were held with the Board of Directors of the Scottsbluff Creamery Company, in regard to the company installing a milk condensing plant. The result of these meetings is that the creamery company is

North Platte (Continued).

going to begin buying whole milk at the rate of \$3. per cwt. for a 3.5 percent butter fat test and that they will be ready to put up the milk in a condensed form by next fall; until that time the whole milk will be used for making ice cream.

One small bunch of pigs was vaccinated this week against cholera. Out of the 57 head vaccinated last week against cholera, four died, two of them being very sick at the time of vaccination.

Some of the cattle here on feed have been shipped and are showing a loss of the feed put into them. A few cars of lambs have been shipped and sold at \$19. or better. Three cars of old ewes were shipped last week and brought \$12. but the owner stated that they were a losing proposition because of such a high death loss early in the winter.

Shoshone.

During the week ending February 14, thirty-six office calls were received and 59 other conferences were held.

The Board of Directors of the Powell Cooperative Creamery Company met in the office of the agriculturist to consider the disposal of the creamery. Twelve other stock holders were present. The decision was unanimous to dispose of the holdings and to dissolve the company.

Range cattle which have been brought onto the project for pasture this winter are causing a great deal of trouble by breaking through fences and eating feed on farms adjoining those where pasture was rented. The fences not being lawful fences, the farmers hesitate to go to court over the matter and the stock owners are taking advantage of this condition.

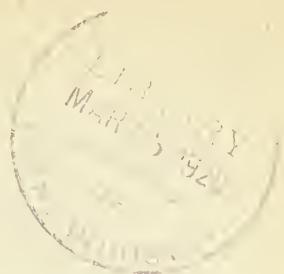
Uncompahgre.

On account of the condition of the roads, very little travel has been performed during the week ending February 14. On Sunday a heavy fall of snow added to the already super-abundant moisture in the ground, and roads which were beginning to dry became worse than they had been. At the close of the week, however, the past several days having been clear and warm, the roads began to show some improvement.

On Tuesday a farm sale was attended at which a number of cattle and horses were sold. Most of these were common stuff which sold for pretty low figures, but a team of mares, six and nine years old, reasonably sound, and bred, sold for \$500.

Visits have been made during the week to the local creamery and ice-cream factory and at the offices of the county agent of Delta County and of the Forest Supervisor at Delta.





**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

**FEB 28 1920**

## PERSONNEL

### WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Bever Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSBLUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Barstow, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

### DEMONSTRATIONS ON RECLAMATION PROJECTS

A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SHOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
....., .....	Agriculturist
<u>UNCOMPANHGRE RECLAMATION PROJECT</u> , .....	Montrose, Colorado
H. A. Ireland, .....	Agriculturist
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg., Yakima, Wash.	

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

February 28, 1920.

No. 9

Livestock Development on the Belle Fourche

Reclamation Project in 1919.

General Statement.--The season of 1919 was a very successful one for most project farmers. An unusually dry year with an abundance of water for irrigation netted one of the largest hay crops on record. Drouth conditions necessitated one or two extra irrigations between cuttings. This resulted in a more rapid growth of hay and earlier cutting. Because of this many farmers obtained four cuttings. The extra hay produced came at a most opportune season, as range feed became scarce early in the fall and range livestock men were on the project looking up feed shortly after the first crop was in the stack. In fact, the first contract for alfalfa in the stack and for the season's cutting was closed June 20th at \$20. a ton. Much speculation resulted from this first sale as to the probable demand later in the season. As a result hay was difficult to buy for several weeks, as farmers would not agree to any contract price. Later, as the range conditions were relieved somewhat, a few contracts were closed at \$15. This condition soon changed and prices settled at the \$20. figure, most contracts being closed at that price.

A large acreage of alfalfa was left to seed. Those farmers taking this risk were well repaid. The average yield was 2.13 bushels, and the total acreage was 842. Grimm alfalfa seed sold readily at prices ranging from 40 to 45 cents a pound. Had the farmers held their seed three months they could have realized from fifteen to twenty-five cents a pound more. Speculators were on the ground early and contracted all seed available. Common alfalfa sold readily at prices ranging from 10 cents to 15 cents less than was received for Grimm. Considerable sweet clover seed was produced and sold at from 20 cents to 30 cents a pound.

The beet-sugar industry received a severe set-back because of bad spring and fall weather conditions. Drouth prevented proper preparation of the soil and much of the

(Belle Fourche - Continued).

seed planted failed to germinate. The total acreage contracted was 2230. Sixty acres of this amount was not planted. Of the 2170 acres seeded, but 1776 were measured by officials of the sugar company. Zero weather the second week in October caught nearly half of the beets in the ground. Conditions were unfavorable for digging most of these until the latter part of December. 147 acres were not dug and were left for the sheep to harvest. Beet tops were not as good for pasture this season as last. Most of those caught in the freezes were worthless. The total beets shipped was 18,513 tons or 490 carloads, twenty cars more than in 1918. The yield averaged 11.3 tons per acre and produced average gross returns per acre of \$100.70.

The transportation problem was perhaps the worst feature connected with the 1919 livestock industry. Feed shortage, car shortage and blizzards seemed to coordinate perfectly. Range men could not obtain cars when they wanted them, storms prevented driving stock to the feed, and the feed could not be carried to the stock. As a result, much stock was lost. Many project farmers were caught unawares out on the range with their stock. Those who started early reached the feeding ground before the most severe storms broke.

The car situation, with the resultant shortage and failure to deliver cars for shipping, affected project growers seriously. Hogs could not be delivered according to contract. When prices broke a number of contracts were declared off as the hogs were not delivered according to agreement. Those who were forced to hold, later liquidated at from 1 to 3 cents under cost of production, which this year amounted to about 15 cents a pound. The heavy loss in a number of instances caused farmers to market all the hogs on hand and go out of the business. Too great fluctuations in the market are not conducive to a definite and settled livestock policy.

The sheep industry promises to assume a very important position among project livestock industries. A healthy growth in this industry is apparent. It has particularly been noted during the frequent trips over the project, that most farm buildings being constructed are sheep equipment.

Several inquiries have been received of late regarding lamb and sheep feeding. Interest is increasing rapidly in this phase of the industry. From present indications, sheep feeding will become a settled project policy. Sheep feeding will fit in admirably with local conditions. Especially will it eliminate a great deal of grief so generally

## Belle Fourche (Continued).

associated with livestock shipments during the three months heavy shipping season. Lamb feeding could be carried on during this period and marketed any time after January 15 to March 15. Prices are generally more satisfactory then and good runs to market are more frequent. In this connection considerable interest is being shown in the class of lambs being grown for market and what the market demands. Increasing numbers of Shropshire bucks are being used annually on the native ewes on the project. The farmers have particularly noted the ready selling qualities of the Shropshire lambs.

Pasturing of sheep on alfalfa is increasing. During the past season 7,104 sheep were pastured on alfalfa. The loss reported, 218 head, is slightly over 3 percent. Hence, bloating is not as serious as loss from various causes on the range. Range losses were over 5 percent. Alfalfa pastured lambs grew much more rapidly and were ready for market when prices were high. Grain was fed through the use of lamb-creeps. The lambs were fat when shipped and topped the Omaha market June 24, when sold.

The Dairy Industry.--This industry, so promising last year, seems to have had a slump. The survey shows only 2412 head as compared with 2912 head during 1918. At the same time these figures cannot be taken as a criterion. There are so many mixed herds as to make an accurate survey of dairy cattle impossible. Many cattle classed as dairy cattle should be classed as beef cattle. Cows being milked are classed as dairy cattle, regardless of breed. Holstein steers in many instances were classed as beef cattle. In several instances Hereford and Shorthorn cattle were listed as dairy cattle. Frequently a cross of the two were so listed. The survey of cows actually being milked shows a total number of 1231 head. Of this number approximately fifty percent have some dairy breeding. But sixteen registered Holstein and four Ayreshire bulls are listed. There are fifty registered Holstein and four registered Ayreshire cows. Of the 2412 dairy cattle listed on the project, but twenty-five percent can qualify as dairy cattle. A large percentage of these are not profitable individuals. Hence it is obvious that the main reason for a rather lukewarm dairy industry is the fact that so many inferior and unprofitable cows are being kept. Cream prices have been good, though perhaps not so much so as local feed prices would warrant. The farmers milking good dairy cattle are proud of their weekly cream check and do not hesitate to talk about it. Conditions for milk and cream production on the project are very good. Alfalfa hay is available in abundance at all seasons of the year. One reason perhaps why more interest is not taken in the dairy industry is that few project farmers are dairymen or have ever had much to do with the dairy industry.

Belle Fourche (Continued).

The grade of cattle in most cases being kept are so inferior as to make it impossible for a beginner, rather unfamiliar with the business, to make a success of it.

A good educational campaign on the dairy industry, showing methods of improvement, good equipment, the handling of milk and cream, better sires and methods of eliminating inferior breeding animals should do much toward the development of the dairy interest of the project and range as well.

The hired help problem, where dairy cows are concerned, is not easily solved. Many farms have had to dispose of their herd in order to keep help. Especially is this so where the hired help were expected to do the milking. This condition does not obtain on the majority of project farms where the acreage is small and the work is mostly done by the family.

Another feature is that few have provided irrigated grass pastures. Dairy cattle, to give the best results, should have access to good succulent pastures. Project farmers in most cases figure they can produce more than the value of the grass on the land, hence are reluctant to plant grass for pasture. Also, there are only a few good grasses that are recommended outside of the clovers, which will do well under local conditions. Most farmers are reluctant to seed brome grass because they feel that they will never be able to get rid of it and that it may spread to adjoining fields. Brome is one of the best grasses in the mixture suggested by the Experiment Farm. Regardless of all information to the contrary, it is dangerous practice to graze cattle on alfalfa. Losses will occur sooner or later.

Beef Industry.--The beef cattle industry shows a healthy growth. Much of this is due to the purchase of cattle from range men short of feed. It is thought that many of these cattle will find their way back to range stock men as soon as grass becomes available in the spring. Project farmers will be well paid for their venture, as present indications are that stock cattle to restock the stricken country will come high this spring.

The Horse Industry.--The horse industry is improving gradually every year though the range influence is still dominant. Numbers of range horses have found their way to project farms in the last twelve months. Good range horses weighing 1,000 to 1,200 pounds or more sold locally at \$35. per head. This type of product was a drug on the market. Range feed became short, the demand diminished and the only outlet was shipment. A heavy exodus of range horses occurred.

## Belle Fourche (Continued).

More than three times as many carloads were shipped from local project points than a year ago.

It has particularly been noted during the year that heavy draft horses sold at prices very little under the 1918 figure. The sugar beet industry is creating a stronger market each year for heavy draft horses, and this market is due to have a helpful effect upon the development of the heavy horse industry.

At present there are 463 horses on the project, weighing 1500 pounds or over. Only 340 head of brood mares of all sizes are to be found. This is another indication that the project farmers have left to the range men the supplying of their horses.

The Swine Industry.--In the swine class the Duroc-Jersey is easily the predominating breed. The present indications are that the project will soon become a Duroc-Jersey breeding center. Many herds of registered Durocs were started during the season. Every encouragement is given to the development of this breed, as it is felt that the necessity for a uniform type over the entire project is essential to the building up of a strong feeder hog market. Also, registered swine breeders in this class will be encouraged to import the best of breeding individuals to build up local herds, feeling that the demand will be greater where the hogs are mostly of one class.

Some uniform breeding and feeding methods are needed in feeder hog production that will tend to prepare the bulk of hogs for market before the heavy range shipments of cattle and sheep begin. This generally occurs about October 1. It has occurred and the suggestion has been made frequently that some agreement of project hog growers might be reached whereby the greater number of sows might be bred at approximately the same time, either for spring or fall litters. The pigs would come about the same time whether in spring or fall. By a similar method of feeding on alfalfa pasture the hogs would develop similarly and be ready for market about the same time. The fall pigs could be marketed early and the spring pigs shortly before the first of October. The method is workable; it would get the hogs off in time to avoid the congested transportation problem. It would get them on the market when the price is good. Feeder buyers would come to the project and buy them in car lots at the stations, paying the maximum price for them. In addition, the hogs would be out of the fields before frost destroyed the alfalfa, which generally occurs from the 1st to the 15th of October.

Belle Fourche (Continued).

The Sheep Industry.--Sentiment for farm sheep production is gradually increasing. More farmers are purchasing black-face bucks for lamb production each year. These bucks are generally mated with average range ewes and the entire crop marketed. The Shropshire is being used mostly for this work.

Much interest is being taken in the Corriedale. From present indications this breed, or a similar one, will soon be in great demand both for farm and range, as they seem to fit both places well. There are now over 4000 half and three-quarter blood Corriedale ewes in this section of the state, a few of which are on the project. More pure bred bucks are brought in every year. There are now approximately seventy pure bred Corriedale bucks in the Belle Fourche Valley district. If ewes were available many project farmers would be breeding Corriedales.

Lambing will begin about the first of March in most of the project herds. However, a number are generally to be seen about the first or middle of February. Because of the severe winter weather early in the fall a very short lamb crop is anticipated. Many ewes failed to mate. Especially is this true with project farmers who utilized the ranges and who did not start for the project before the severe winter began. One large herd of registered Rambouilletts will not produce over 50 percent of the usual lamb crop.

#### Breeds and Breeding.

The following table shows the number of pure bred livestock reported of the various classes. Only registered stock was solicited in making this part of the survey. The total number of scrub sires being used is not available.

#### Beef Cattle.

Hereford bulls . . . . .	29
Hereford cows . . . . .	85
Polled Hereford bulls . . . . .	4
Polled Hereford cows . . . . .	15
Shorthorn bulls . . . . .	8
Polled Shorthorn bulls . . . . .	2

#### Dairy Cattle.

Holstein bulls . . . . .	16
Holstein cows . . . . .	50
Ayreshire cows . . . . .	4
Ayreshire cows . . . . .	2

## Belle Fourche (Continued).

Swine.

Duroc-Jersey boars	86
Duroc-Jersey sows	285
Poland China boars	9
Poland China sows	6
Chester White or O.I.C., boars	4
Chester White or O. I. C. sows	6
Hampshire boars	1
Hampshire sows	4

Sheep.

Rambouillet bucks	482
Rambouillet ewes	1000
Shropshire bucks	50
Shropshire ewes	20
Corriedale bucks	20
Cotswold bucks	50
Hampshire ewes	2
Romney Marsh bucks	4

Draft Horses.

Percheron stallions	10
Percheron mares	5
Shire stallions	4
Shire mares	12
Belgian stallions	3
Grade stallions	2
No grade stallions	6

Light Horses.

Standard bred mares	2
---------------------	---

During the season a number of registered breeding animals were brought to the project. Included were seventy head of Hereford and twenty head of Polled Hereford cattle, thirty five head of registered Shropshire sheep, twenty head of which are ewes, three well bred Rambouillet rams and several Duroc-Jersey and Chester White swine.

Numerous well bred poultry has been added to the already very good grade of poultry on the project farms. Among the importations were Bronze turkeys, Toulouse geese, Muscovy ducks, and three Pea fowls. In addition, the chicken stock brought in included White Wyandotte, Rhode Island Reds, Barred Rocks and Leghorns.

Belle Fourche (Continued).

Herd Improvement.

Herd improvement is not receiving as much attention as local livestock industries would justify. However, a few registered herds are being established from year to year and the breeding stock distributed from these herds will soon be showing results.

Improvement is becoming very marked and noticeable among hog growers. Twenty-five new registered herds were established during the year. Many of these are quite small but a start is being made. Two splendid Nebraska boars, and one eastern South Dakota boar were brought to the project during the season. These will do much for Duroc-Jersey improvement. Likewise, several very good sows were brought in with these boars and their pigs will be sold in a cooperative sale in the spring. One very good Chester White sow was shipped in from the east.

During the season one successful cooperative Duroc-Jersey swine sale was held at Newell. This was the first of the kind attempted and the breeders were well satisfied with the results. An average of \$61.61 was made on 72 head of registered stock. There were eight consignors to this sale and twenty-eight project farmers bought at the sale.

Very little success has been met with in interesting farmers in cow testing. As long as the testing was done for them there was no objection but they were not ready to purchase testing outfits to do their own testing. It is likely this work will be developed through the boys' and girls' club work. Cow testing associations for the young people are being planned by the county agent and they will, if carried on successfully, reach the older people.

Bull club organization has not been attempted. Very little encouragement has been received from suggestions dropped at intervals during the season. The necessity for such clubs is very apparent. The small farm units and small herds of cattle should make the operation of bull clubs possible and it is doubtful if rapid progress in building up herds is possible unless something of this nature is accomplished.

Splendid success was met through the organization of two boys' and girls' pig clubs. Ten contestants finished the season and showed their pigs at Labor Day celebration at Newell. The pig club exhibits competed with the other attractions of the day and attracted a great deal of attention.

## Belle Fourche (Continued).

The parents of the children were very much interested. Business men and farmers contributed to awards for the successful contestants. This work has been taken over now by the county agent's office.

Rapid development of the project livestock industry is not possible unless some satisfactory method of bringing the necessity of improvement direct to each farmer is accomplished. Many do not attend meetings--in fact, most of them do not. One severe disappointment connected with the recent survey was the information disclosed regarding the few registered beef and dairy bulls being used by project farmers. There is much necessity of emphasizing the "Better Sires--Better Stock" movement. A large number cannot be reached through farm visits as they are not communicative and receptive of efforts with the best of intentions. It is hoped something much greater than has been done during the past two years may be accomplished in the improvement of herds during the coming season.

Feeds and Feeding.

Better feeding methods are gradually being adopted. During the season a number of feed grinders have been added to farm equipment. Barley and oats are being ground for hog feed; also for lambs. The majority of hog growers do not feed sufficient grain to hogs on alfalfa pasture to produce the most economical gains on this forage. There are a number of farmers who feed no grain to hogs on alfalfa pasture.

Very little interest is being shown in irrigated grass pastures. So far as is personally known, no irrigated pastures were provided during the past season.

Sugar-beet-top pasture this year, because of the early freezes and frequent thawings, was not as good as during the season before. However, the tops are very much appreciated. 147 acres of beets were left in the ground this fall for sheep pasture.

"Hogging off" and "sheeping" corn is increasing each year. This system of harvesting is proving very successful in every way, and this may account in a measure for the lack of interest in silos.

Organized cooperative grazing in the utilization of National Forest grazing lands does not seem to interest local project farmers. The reason for this may be the large grazing areas adjoining the project which are available to small or large herds.

## Belle Fourche (Continued).

Sheep growers with small bands club them together and prorate the expense. Also, it seems as though those who have rented land on the National Forest in this vicinity have lost large numbers of their stock. The herders are not accustomed to handling stock in a timbered country. Likewise, the sheep are not accustomed to timbered lands. Range flocks are being cut down and more grazing land is thus becoming available for local use.

Feeding tests conducted during the year ended in every instance without the final weights being obtained. Weather conditions, means of travel, and lack of means of immediate communication all assisted in preventing carrying the crate to the farms to weigh the hogs before they were shipped. Four tests were being made and good results in three were being observed.

Silos have not increased during the season. As the dairy industry increases and the herds improve the demands for silos will increase. The same is true of the beef cattle industry. A number of inquiries have been received relative to the feeding value of sunflower silage.

Interest is increasing rapidly in the feeding of lambs. Every effort will be put forth during the 1920 season to encourage this industry, as it will fit in so well with local livestock conditions in general. The marketing period of fed lambs will occur after the heavy cattle and sheep shipments from the range occur. The market will be better at this time and local feed stuff will be fed and marketed on the hoof.

Belle Fourche (Continued).

Stock Population.

Comparison as at December 31, of the years 1917, 1918 and 1919.

Class of Livestock	December 31, 1917	December 31, 1918			December 31, 1919		
		Total	In-crease	decrease	Total	In-crease	decrease
Horses.....	3734	3877	143		4238	361	
Mules.....	86	97	8		80	17	
Beef cattle..	6616	4801		1815	8806	4005	
Dairy cattle..	2912	3330	418		2421	909	
Sheep.....	36459	35607		825	75398	39791	
Hogs.....	10945	9007		1939	19837	10976	
Fowls.....	24028	18975		5464	20699	1714	
Bees.....	541	852	311		900	48	

Class of Livestock.	December 31, 1917		December 31, 1918		December 31, 1919	
	Head	Total	Head	Total	Head	Total
Horses.....	\$ 91.16	\$340,482	\$ 75.47	\$300,590	\$ 59.60	\$250,810
Mules.....	108.24	9,505	83.76	8,125	64.16	2,728
Beef cattle..	50.53	334,295	63.18	303,315	79.00	433,732
Dairy cattle..	60.65	176,618	66.69	222,060	79.00	191,279
Sheep.....	12.69	461,346	11.00	391,595	9.27	698,559
Hogs.....	15.10	165,240	15.12	136,141	17.18	340,396
Fowls.....	.73	17,612	.63	11,948	.64	13,331
Bee hives....	5.34	2,888	7.33	6,242	9.50	8,550

1918 showed a total decreased valuation of \$127,970  
 1919 showed a total increased valuation of 558,769

Average number of livestock on project farms, 1918 and 1919.

Class of Livestock.	1918		1919	
	Total	Average*	Total	Average*
Horses.....	3877	7.3	4238	7.5
Beef cattle...	4801	9.	8806	15.7
Dairy cattle..	3330	6.3	2421	4.3
Sheep.....	35607	67.	75398	134.5
Hogs.....	9007	17.	19835	35.3
Fowls.....	18975	36.	20699	36.8

\* 528 project farms were carrying some kind of livestock during 1918.

\* 561 project farms were carrying some kind of live-  
 stock during 1919.

Farm distribution of livestock.Distribution - 1918

Class of Livestock.	1 to 5	6 to 10	11 to 20	21 to 30	31 to 50	51 to 100	Over 100	Over 1000	Total	Maximum on any farm.
Horses.....	238	179	67	10	9	1	0	0	504	100
Mules.....	28	14	0	0	0	0	0	0	29	6
Beef cattle..	59	33	16	19	19	18	6	0	188	185
Dairy cattle.	220	70	30	14	11	6	0	0	371	90
Sheep.....	22	17	3	5	11	20	57	7	142	1800
Hogs.....	115	61	63	34	31	38	14	0	356	270
Fowls.....	4	2	15	73	120	104	13	0	331	200

There were 336 farms carrying more than three classes of livestock during 1918.

Distribution, 1919.

Class of Livestock.	1 to 5	6 to 10	11 to 20	21 to 30	31 to 50	51 to 100	Over 100	Over 1000	Total	Maximum on any farm.
Horses.....	185	200	76	11	9	1	0	0	482	51
Cattle.....	146	91	82	51	30	22	20	0	442	400
Cows, milking.	268	62	12	1	0	1	0	0	342	21
Sheep.....	21	6	10	7	7	13	73	19	156	2800
Hogs.....	108	69	92	48	31	40	13	0	341	410
Sows kept over	167	62	30	9	4	1	0	0	273	60

There are 435 farms carrying three or more classes of livestock.

A comparison of the above tables shows a marked increase in the number of farmers owning cattle. However, a large percentage of this increase was shipped after the survey was made. Cars became available after January 1st.

Likewise the number of farmers owning sheep has increased, especially those farmers owning from 100 head up to 1800 head. Also, a number of these flocks were reduced when cars became available after the survey was made.

Since the census of dairy cattle or milk cows was taken in a different manner this year than last year, no correct comparison can be made with the 1918 census.

## Belle Fourche (Continued).

The number growing hogs has dropped off about as much as the number of sheep men have gained. This loss of hog growers was caused by the heavy fluctuation of the market and the loss resulting therefrom. Project hog growers are beginning to appreciate as a whole the necessity of staying with the industry year in and year out. Stabilization of livestock industries is gaining annually.

Livestock Summary - 1919.Cattle.

Total number of cattle, including beef and dairy, 11,227	
Total number of farmers owning cattle.....	442
Average number of cattle to each farm.....	25
Total number of cows being milked.....	1,231
Number of farmers milking cows.....	342
Average number of milk cows to each farm.....	3.8

Sheep.

Total number of sheep.....	75,398
Total number of farmers owning sheep.....	156
Average number of sheep to each farm.....	483
Total sheep pastured on alfalfa.....	7,104
Number of farmers pasturing sheep on alfalfa...	50
Total number of sheep recorded lost from bloat.	218
or 3 %	
Total number of sheep lost from coyotes.....	678

Hogs.

Total number of hogs.....	20,699
Total number of farmers owning hogs.....	341
Average number of hogs to each farm.....	60
Number of brood sows kept over.....	2,064
Average number of brood sows to each farm.....	6

Horses.

Total number of horses.....	4,238
Total number of farmers owning horses.....	482
Average number of horses on each farm.....	8
Horses weighing 1500 pounds or over.....	463
Brood mares on the project, all weights.....	793
Brood mares bred to draft stallions.....	340
Average number of brood mares on each farm.....	1.6

Equipment.

Modern farm building equipment is increasing rapidly. Especially is this true of farmers who have taken up the sheep industry. Considerable building of equipment for hog production was made during the past season. The greater

## Belle Fourche (Continued).

part of the building is being done in the Newell and Arpan districts. The Vale section, the oldest part of the project is quite well equipped, though several inquiries have recently been received regarding modern hog buildings. Three inquiries during December were received regarding hog house plans. Twenty large farm buildings were counted in process of construction at one time during the fall season. Most of these were sheep barns.

Several unorganized cooperative shearing plants were in operation during the shearing season. Two were stationary outfits. One noticeable feature connected with the shearing work during the year was the number of farmers installing their own apparatus and doing their own and their neighbors' shearing. At least six "Little Wonder" or similar two-man outfits were set up and the shearing operation completed without difficulty. This practice of home shearing will increase among the project flocks. Twenty to twenty-five cents a head was charged most farmers for shearing by the itinerant shearing outfits. Some discussion was had last year regarding a cooperative shearing plant in the Vale district. There is some question whether this project will materialize next year. An effort will be made to find out how many are interested.

A farmers warehouse at Newell to handle wool and other products was discussed to some extent, but to date nothing has been done and it is doubtful if the necessity is apparent. There is much more need for an enlarged livestock shipping yards at this point. The cooperative shipping association discussed the possibility of building a yards for hog shipments.

No headway has been made in the construction of the suggested winter water supply system proposed for farmers who find it impossible to get well water yet have reservoirs. During cold weather the water freezes to such depths as to make it necessary to chop ice each morning to water livestock. It is planned to avoid this chopping and keep the water free from filth by piping it from the lowest point of the pond to a point below the frost line below the dam. With the pipes below the frost line and controlled with a hydrant, water could be run into a trough if necessary and heated if desired. If plans can be made this next year, some effort will be made to place one for a demonstration.

Relationship of other local industries.

This project is primarily a livestock, feed and grain producing section. The distance from market precludes any

## Belle Fourche (Continued).

other possibility. The livestock industry will always be the main cash crop. It is not hampered or interfered with by local industries. The sugar-beet industry promises to be the largest single industry other than the production of livestock. This industry will assist in the development of livestock interests. Should the factory materialize at Belle Fourche, the project will be hastened into the profitable business of sheep and cattle feeding.

Disease Pests and Minor Ailments.

Disease among project livestock was not very prevalent during 1918. Some sheep were lost due to parasitic infection--intestinal worms, mostly. A few hogs were lost from necrosis, though the losses from this cause were much less than in 1918. Other livestock diseases of a communicable or infectious nature were not reported. Approximately 3 percent of the 7,104 sheep pastured on alfalfa died of bloat. As this loss was at least two percent under the range losses it was not considered severe. Coyotes destroyed more than 678 sheep for the project farmers during the season.

Hog cholera has not made appearance as yet and every effort is being made to keep it out. Considerable publicity from time to time was given to this subject during the season. In this connection, through the efforts of several project livestock men, local veterinarians and this office, a regulation declaring the project and surrounding territory cholera-free area was promulgated by the Live Stock Sanitary Board. This regulation will be difficult of enforcement, but will be worth the effort. The local representative of the Live Stock Sanitary Board has the enforcement of this regulation in charge and is completing plans for its enforcement. The regulation provides for a twenty-one day quarantine from date of arrival at the station, in some yards convenient which do not expose other hogs to possible infection. In addition, it provides for a double disinfection of the animals, one upon arrival and when being taken to the farm to which they are destined. Also the crates are to be thoroughly disinfected or burned. As hog importations to the project will be principally confined to breeding animals, it is felt that the prevention of cholera introduction can be effected.

So far as is definitely known on the project, abortion is not causing much loss.

Four herds on the project are under federal and state supervision in the eradication of tuberculosis preparatory to being placed on the accredited list.

## Belle Fourche (Continued).

No figures are available relative to the loss from the various disease ailments. However, it is quite certain that more livestock was lost from the cold and severe weather than through all other agencies combined.

Lice on cattle are causing severe losses annually. If the loss from this parasite was computed there is little doubt that it would aggregate more than from all other causes combined. The loss in condition due to irritation is a big factor. Also the feed necessary to put back the flesh lost would be worth while considering. Spraying and disinfection of cattle is not practiced in most herds.

Cooperative Features of the Industry.

Successful cooperative effort was carried on during the year in wool marketing, lamb and sheep marketing to a limited extent, through one cooperative registered Duroc-Jersey swine sale, and the operation of two boys' and girls' pig clubs.

Two cooperative shipping associations were organized early in the season. Their organization was effected primarily to ship feeder hogs. However, wool was added to the products the association was to ship before the organization was completed. Thirty-two farmers were called together at Newell at their request, representing 55,000 pounds of wool, which they wished to sell or ship cooperatively if they deemed the price offered insufficient. Buyers were invited to be present to offer bids on each lot separately. However, at the last minute the farmers decided to pool the entire consignment and offer it to the highest bidder. A bid of 57-3/4 cents was made by a representative of a St. Louis firm. The bid was turned down and a decision made the latter part of July to consign. Accordingly on July 28, the farmers still remaining in the pool called together and a committee was selected to consign the wool. 48,000 pounds were loaded in two cars and shipped. 45 cents a pound was advanced on this wool. Up to the end of the year the final reports had not been received. Several unsuccessful efforts were made to break up the pool. However, all but a few of the leaders remained to see the thing through. The places of a few that dropped out were taken by others and sufficient wool for two carloads held together.

One cooperative registered Duroc-Jersey swine sale was made which proved a very successful venture. The sale averaged \$61.61 for 72 head, a very much larger sale price than any similar sale held in the vicinity. Eight project Duroc breeders contributed lots to the sale, and twenty-eight project farmers bought hogs at the sale. As a result

## Belle Fourche (Continued).

a number of new registered herds were established which in the future will no doubt be factors in the development of the breed on the project. The cost of selling was slightly over 4 percent. This is about 2 percent more than it should be. This cost will be cut down in the future at least one percent and possibly more.

Cooperative feeder hog marketing, for which quite elaborate plans were made, did not materialize because of the failure to obtain cars when desired. Cooperative shipments cannot be successful where cars could not be delivered when wanted. No definite promise could be given by railroad agents regarding the date of delivery of cars. This feature may be attempted during the 1920 season and carried out to a successful conclusion.

A cooperative prairie dog poisoning campaign was projected during the season. However, after the bait had been received and everything made ready to begin operations, the local authorities received word that appropriations expected through Congress were not made and the work was discontinued. The work was cooperative between the U. S. Biological Survey, the State of South Dakota and the local county authorities.

A number of local cooperative threshing outfits have been in operation for some time. Two of these outfits were organized privately this year and worked during the threshing season.

Cooperative activities of project farmers are increasing year by year. Some cooperative enterprises projected do not prove what is expected of them. Others do not receive a fair trial. However, in time it is expected those peculiarly fitted to the conditions will be improved upon and made applicable to local conditions and cooperative work carried on to a very successful degree.

The extent and rapidity of future livestock development is problematical. That improvement will be slow for the next few years is certain, especially in the beef and dairy cattle and horses. The sheep industry is improving more rapidly and with the assistance of local business interests should make rapid strides. The swine industry is making more improvement than all other industries and from present indications should not be many years in reaching a splendid position of breed improvement.

Gradually the unsuccessful and dissatisfied farmers are being weeded out and their places taken by young and progressive men interested in livestock improvement.

## Beile Fourche (Continued).

Some local project banks are retarding the industry in many respects. Excessive commissions are charged farmers for supplying their livestock wants in addition to furnishing them the money necessary to buy such livestock at the usual rate of interest. One case was reported where 11 percent was charged for selling a flock of sheep from one project farmer to another. In other instances stock has been brought to the project for sale to project farmers and misrepresented. Unsuspecting farmers bought much of it at prices much higher than the regular market rate, due to the misrepresentation, and at the close of the years business found themselves where they were when they started and with the years work for nothing. Legitimate profits would be reaped a hundred fold in a few years if sufficient foresight were utilized to build up a stable and representative livestock industry. A uniform livestock policy agreeable to the project banks looking to the improvement and development of the livestock industry is needed.

Production and Marketing.

The following table shows the comparison of car lot shipments of crop products and livestock from the four project towns for 1918 and 1919.

Product	1918	1919
Wheat.....	175	131
Mill products.....	29	83
Oats and other grains.....	5	4
Potatoes.....	27	15
Cattle.....	960	1617
Hogs.....	86	148
Sheep.....	282	451
Horses.....	120	371
Hay.....	301	318
Sugar beets.....	470	490

The following additional products were marketed in addition to those mentioned in the foregoing table. Comparisons with 1918 are also shown.

Product	1918	1919
Wool, pounds.....	1527000	2300000
Butter fat, pounds.....	519465	410374
Creamery product:		
1. Ice cream, gallons.....	7439	8540
2. Butter, pounds.....	221150	261242

## Belle Fourche (Continued).

The average monthly and quarterly butter fat prices for the season were as follows:

Month	Price, Cents per lb.	Quarterly Average		
		1918		1919.
		Cents per lb.		
January	49			
February	47	Avg. 1st qr.	50	55
March	58			
April	61			
May	61	" 2nd "	43	55
June	44			
July	51			
August	53	" 3rd "	45	53
September	57			
October	64			
November	68	" 4th "	60	64
December	60			

The average monthly butter fat price is 57 cents a pound for 1919. The average quarterly butter fat price is 57 " a pound for 1919. The average quarterly butter fat price is 49.24¢ a pound for 1918.

The total income for butter fat during 1919 is much greater than the previous year, even though the amount of butter fat produced during 1918 was 9,091 pounds more. Good prices prevailed during the entire season and many farmers with the right kind of dairy cattle made good profit on the cream they produced.

Cream is handled through five cream stations on the project and by one creamery at Belle Fourche. The cream bought at four of the stations is shipped to creameries at Deadwood and Mitchell, S. Dak. The other project station ships the cream to the Belle Fourche Creamery. This creamery pays a premium of 2 cents a pound on all cream bought. A cooperative creamery at Newell failed a few years ago. However, creamery talk is again being revived and it would not be out of order to predict the organization of a private creamery at Newell within the next two or three years.

During the past season two cooperative livestock shipping associations were organized. Very little, however, has been accomplished through them. The failure up to date is due largely to the failure to secure a manager to do the work of organization and shipping. Also the membership does not yet warrant a man taking over the management and do nothing else. Two cars of wool and three cars of sheep were consigned through the association. The cooperative shipping of hogs, for which such elaborate plans had been worked out, had to be given up because of the failure to obtain cars. No assurance could be given as to date of delivery of cars. Where telephone connection is not

## Belle Fourche (Continued).

extensive, cooperative shipping of livestock cannot be carried on successfully. Especially is this true when delivery of cars is uncertain.

Prices for livestock were generally good until the failure of railroad transportation. When this happened livestock selling readily as fast as it could be marketed, could not be shipped. Especially did it work a hardship on the hog growers. They had been receiving 18 and 19 cents for hogs as fast as they could be brought in and loaded. Shortly after cars were not available, the market dropped to 11 cents. Many project farmers were obliged to close out at this price or slightly higher. Later the market recovered somewhat, and prices have since ranged from 12 to 16 cents. The bulk of project hogs sold for approximately a  $13\frac{1}{2}$  cent average.

Sheep prices were steady until the fall when lambs could not be delivered and cars were not available. Many lambs sold in the pens to men who could handle them at prices ranging from 11 to 13 cents.

Light horses brought barely enough to pay for their cost of production. Prices for this class of horses ranged from \$25 up. Heavy horses have continued to sell at good prices. This class of horses weighing 1500 pounds and over sold at prices from \$200 up. Most of the heavy horses sold were grown on project farms or shipped in.

Considerable effort has been expended during the past season on the standardization of marketable livestock. Very good results have been obtained in the production of uniform feeder hogs. The slogan "One breed--one color" seems to have been quite generally adopted by project farmers. The Duroc-Jersey has become the project hog almost to the exclusion of other breeds. A short time and the feeder hogs marketed from local stations will be largely red and of uniform size.

There is much need for the production of more uniform cattle and sheep. At present the range cattle show much more uniformity than do those produced on the project.

## Belle Fourche (Continued).

Local farmers have not readily taken to the utilization of registered bulls and the improvement of their herds through the elimination of inferior female stock. Much work along this line remains to be done before any degree of standardization becomes apparent.

Sheep and cattle feeding to utilize the generally large surplus of alfalfa hay should be given more attention by project farmers. Some work has been done in this connection during the past season, especially regarding lamb feeding. Plans have been obtained for the most successful feed racks and grain boxes. Corn prices in carload lots are approximately the same as at Fort Collins, Colorado, where extensive feeding operations are carried on from year to year. Though climatic conditions are not quite so good, yet the weather is not so severe but that arrangements can be made to make a success of the lamb feeding industry.

- - -

E. H. AICHER.

Belle Fourche, S. Dak.,  
February 27, 1920.

---oo---





**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

MAR 6 1920

PERSONNEL

WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Beyer Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSBLUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Barstow, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

DEMONSTRATIONS ON RECLAMATION PROJECTS

A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SHOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
<u>UNCOMPAGRE RECLAMATION PROJECT</u> , .....	Agriculturist
H. A. Ireland, .....	Agriculturist
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg.,	Yakima, Wash.

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N

Of the offices of

WESTERN IRRIGATION AGRICULTURE

And

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

March 6, 1920.

No. 10

Livestock Development on the Minidoka Reclama-  
tion Project in 1919.

By. W. E. Meyer.

Introduction.

Following the end of the war, agricultural conditions on the Minidoka Project were somewhat disrupted. In the fall of 1918 an abundance of hay, with the large centers of demand well supplied, found many people on the project at their wit's end to dispose of the major crop. Intense feeling existed between the sheep men and the hay growers; farmers, too, on account of the shortage of labor during the war, had disposed of considerable live stock, particularly dairy cattle and hogs.

During the fall of 1918 an intense political fight was conducted on the project, so much so that four different parties in the field each elected candidates for office. The west end of the county, not under the government irrigation system, was cut off by the state legislature to form a new county known as Jerome County. This was done several days before the writer reported for duty. Combined with this, later in the spring, a serious shortage of water became apparent. This aroused considerable excitement and more disruption, with the result that the water master for the Minidoka Irrigation district resigned.

At the Minidoka County Farm Bureau meeting, which is closely allied with the demonstration work, we found a gathering of farmers in Minidoka County, about 100 in number, whose first word of utterance was a motion made and seconded to abolish the Minidoka County Farm Bureau. Following this, a resolution was introduced stating that Minidoka County should pass a resolution favoring the resignation of Secretary Houston, of the Department of Agriculture. By tactful work, a new constitution and by-laws for the farm bureau was adopted and a new set of officers elected, which resulted in the former county agent discontinuing work.

## Minidoka (Continued).

Conditions in Cassia County were similar regarding the hay situation, but not so much so from a political stand-point and the farm bureau in that territory was felt to be well organized and in a position where it was fairly stable.

Taking these things into consideration, it was felt that considerable work should be done in Minidoka County. For a period of several months, while a new county agent was being secured for this territory, the writer spent considerable time in the vicinity of Rupert trying to arrange the work for the arrival of a new county agent. It was felt that this work was essential to the success of the demonstration work.

In conducting the year's work, every effort was made to confine the work to individual projects or plans and when once started to complete these plans before taking up new work. The first essential was securing the appropriation from the county commissioners for a stenographer and county agent.

There being only one silo on the project, an excursion was conducted to Twin Falls County for the purpose of studying silage and silo construction. In conducting these excursions or meetings, every effort was made to secure men with considerable experience and stability and qualified to give results pertinent to the subject matter in hand. The Western office of the Dairy Division, at Salt Lake City, cooperated in this work.

In Minidoka County there were a number of small flocks of sheep. With the assistance of Mr. Rinehart, a wool-pool was organized and a very satisfactory sale of the small clips from Minidoka County was made in June. Feeling that one of the main sources of development of live stock is through pure breeds, a calf club was organized in Cassia County. A trip was made East to select stock and 22 pure bred heifers were purchased. And believing that the co-operative use of a pure bred bull for breeding purposes is an established method of encouraging better breeding, a bull club of five members was formed in a district of Cassia County and an exceptionally well bred Holstein bull was purchased.

A cheese factory was organized at Rupert, and an attempt was made to revive the cheese factory at Paul. The latter, to date, has not been successful.

On May 3rd a new county agent arrived in Minidoka County. The work has progressed during the year in a satisfactory manner. War conditions are gradually becoming adjusted. Labor is scarce, but not extremely so, and the water conditions were found to be better on the Minidoka Project than any other section of the state. Both the farm bureaus in Minidoka and Cassia Counties have reorganized on a larger scope than ever before.

Minidoka (Continued).

In Minidoka County the farm bureau raised the county agent's salary, purchased him a new car and furnished him assistance in the form of a home demonstrator. At a recent meeting, the very party who introduced a resolution for the abolishment of the farm bureau at a previous meeting, made the statement that every farmer in Minidoka County should be a member of the organization and that it was vital to his welfare to come in and join the organization. In Cassia County a like condition exists. The county agent's salary has been increased \$300, and he has been furnished a new car. He will also have an assistant who is a potato specialist. One of the banks in that county is so firmly convinced of the value of extension work that they plan on hiring a man to conduct this sort of work for them.

Last spring the possibility of organizing a good calf club in Minidoka County was mentioned to the bankers of Rupert. There was no particular interest in this effort. Late in December a bank sent a representative to this office of its own volition to furnish funds for such an enterprise and finally the funds were arranged for at 5 percent interest, which is a better rate for club work than any other section of Idaho has been able to secure.

The Dairy Industry.-- During the war a number of dairy cattle were sold or shipped from the project. Several pure bred herds were completely dispersed. However, as conditions are returning to a more stable basis, there is more favorable sentiment in various communities on the Minidoka project for dairy cattle. Not only is this sentiment confined to grade cattle, for pure breeds are also in demand.

With high priced land comes more intensified and better farming, also a greater use of forage crops, which are abundant on the project.

The seasons here are such that dairying furnishes a winter occupation for the average farmer. The attitude of bankers, too, has changed, one banker recently stating that he would rather finance dairying on the Minidoka project than any other phase of the live stock industry. Stock have been imported, both grades and pure breeds, for dairy purposes, and much more will be imported during the coming year.

Stock Population.--The following table gives an estimate of the dairy cattle on the project:

	1915	1916	1917	1919
North Side.....	4394	4368	4077	3409
South Side.....	2508	2676	2557	2765
Total on project.....	6902	7044	6634	6174

Minidoka (Continued).

During the year six cars of dairy cattle were shipped to the project for distribution; others came with new settlers moving in. Eight pure bred Holstein heifers of exceptionally good breeding were brought to the project through the calf club. A car of pure bred Holsteins was shipped here as a result of the silo excursion.

Breeds and Breeding.-- Sentiment is growing in favor of pure breeds, especially pure bred sires. There are communities on the project where bull associations could be formed. There are now approximately 25 pure bred Holstein males, 50 pure bred females; 8 pure bred Jersey males and 15 pure bred females. The general preference seems to be for Holstein cattle. There are no Guernseys or Ayrshires on the project.

Herd Improvement.-- In the development of pure bred and grade dairy herds assistance was given in selecting 7 pure bred Holstein males and 2 pure bred Jersey males.

Testing and record keeping have been encouraged through the cheese factory, as it is believed the district has too many small herds to warrant the support of a cow-testing association. Milk sheets have been given out occasionally.

Feeding and Feeds.-- The high priced hay this year has caused more interest in good feeding that would have come normally. Numerous calls have been received with reference to beet-top silage and had beet tops been an abundant crop this year numerous pit silos would have been built over the project. Encouragement of the feeding of beet-pulp and beet-top silage has been given in numerous cases, for this feed, combined with our alfalfa hay, is the best home ration we have. Very little grain is fed to dairy cattle. Alfalfa pasture has one detrimental feature--that of bloating cattle. Small demonstration plots, encouraging the growth of Ladino clover, which is reported to be an excellent crop, and one that will not bloat cattle, have been conducted. Just what success will be obtained from these plots is a matter of the future. Pasture is the limiting factor at present in the dairying business in this district.

The raising of sunflowers as a silage crop has been encouraged, and several acres of Russian sunflowers were planted this spring. They have given satisfactory results in feeding. The sunflowers are exceptionally good in yield but are a rather serious crop to handle, due to difficulty in cutting them and getting them to the silo. However, corn can be grown quite successfully here.

Minidoka (Continued).

Equipment.--High priced lumber and high priced labor have interfered materially with the development of good dairy barns. Climatic conditions, too, are such that farmers can go on in the dairy business indefinitely with rather cheap structures for housing dairy cattle. Eight silos were built during the year, making a total of nine now on the project. Two of these are in Cassia County and seven are in Minidoka County. Two are concrete, four are stave and three are homemade wooden-type silos. High priced hay caused considerable interest in beet-top and corn silos. In this connection, one corn binder was purchased cooperatively for use in cutting the corn crop for silage.

Diseases, Pests and Minor Ailments.--Very little help has been given on diseases of dairy cattle other than could be done in an educational way. Two cases of milk fever have been diagnosed, several cases of abscesses, and several treatments for abortion.

Production and Marketing.--The following prices were paid by the cream stations during the past year:

January.....	\$0.45
February.....	.45
March.....	.50
April.....	.59
May.....	.59
June.....	.51
July.....	.55
August.....	.56
September.....	.64
October.....	.64
November.....	.64
December.....	.70

At the present time the cheese factory offers the best source for sale of the milk products. Cooperative plants of this sort arouse considerable interest on the part of the patrons to increase the herds and patronize the plants, for it is felt that they are getting an honest deal and have an institution of their own to develop. The cheese factory at Rupert was organized to take care of this situation here. The factory at Acequia is under efficient management and works along quite smoothly. The cheese factory at Paul is something of a problem. It is under a large burden of indebtedness, but may be successfully worked out, provided the proper local cooperation and support is secured.

Alfalfa and beets are the two major crops on the project. The surplus of the beet tops is an excellent succulent feed for dairy cattle. With alfalfa hay, it makes practically a

Minidoka (Continued).

balanced ration. The beet pulp, in addition, helps. These two crops will be factors in the future to encourage the dairy industry. Hogs, of course, come as a means of taking care of the by-products of the dairy industry, such as skim milk and whey.

As already stated, the high priced land tends toward more intensified and diversified farming. Our long distances from market, too, mean more dairying.

Cooperative Features of the Industry.--A silo excursion, conducted to Twin Falls County, was one of the cooperative developments of the dairy industry. This, followed by a silo meeting at Rupert, with an attendance of perhaps 150, has done considerable in the development of that factor of the dairy industry.

Sometimes it is difficult to measure, in actual concrete results, the value of different phases of extension work. However, a silo excursion held on the project last spring shows some evidence of bringing immediate results. While there was only a small party on the excursion, it resulted in a large silo meeting being held at Rupert several weeks later, at which time there was an attendance of about 150. Eight silos were built on the project during the year, but two were built by men who had actually taken part in the excursion. One man bought a band of 400 sheep while on the excursion. Another man bought a herd of pure bred Holsteins, numbering 22, and three beet-top silos were made by members of the excursion this fall. Two other members of the excursion have expressed themselves as planning to build a silo next year.

The cheese factory at Rupert was another cooperative endeavor and there are at present two trucks hauling milk to this factory from various points on the project. An exceptionally fine quality of cheese is being made at the rate of 400 pounds a day.

Considerable time and effort was used in preparing stock for the exhibits at the Cassia County and Minidoka County Fairs. Demonstrations were held as to the best methods of judging cattle, points to be taken into consideration, and other things in the general improvement of the industry.

Future Development of the Industry.--The outlook for the dairy industry is exceptionally good and there is a good deal of interest in the dairy cow. The pastures for cattle are one of the limiting factors in some sections. As the country grows older, these things will gradually take care of themselves.

Minidoka (Continued).

The Beef Industry.

Status of the Industry.--Men who have outside range are interested in the production of beef. Beet-pulp feeding and silage feeding are arousing the interest of the average beef feeder. However, the project, from present indications, will never be an outstanding feature as a producer of beef. The demand for range bulls, however, is encouraging a great many small farmers in the pure bred business and the Shorthorn breeders are increasing rapidly. There is considerable interest in the development of the pure bred Shorthorns.

Stock population.--The following table gives the population of beef animals:

	1915	1916	1917	1919
North Side.....	881	1932	609	1653
South Side.....	339	372	1970	278 (?)
Total on the project....	1220	2304	2579	1931.

In 1918 there were 625 beef animals on the South Side, and from indications in the various sections, it is questionable whether the figures are exact. With the beef industry so many animals are brought in here for a few months of winter feeding that these figures probably do not show the true conditions. This year, with the scarcity of hay in other sections, numerous bunches of range cattle have been brought to the Project for winter feeding. The Portland Feeder Company feeds large numbers of steers at the two beet sugar factories at Paul and Burley. Beet-pulp and beet-top silage may have a tendency to increase the production of beef on the Minidoka Project.

Breeds and Breeding.--There are approximately 125 pure bred Shorthorn females and about 25 males on the project. There are also 60 Herefords owned by one man in Minidoka County. The calf club has increased the number of pure breeds on the project. Three Shorthorn sales were held during the past year, which tended to arouse interest in this business.

Herd Improvement.--Assistance was given in two cases in the purchase of pure bred males to head Shorthorn herds. Help was given in the selection of 80 Shorthorns purchased by one farmer on the Project. No attempt was made to revive the grazing association formerly in operation in this section.

Minidoka (Continued).

Feeds and Feeding.--Beet-pulp, beet syrup, beet-top silage, sunflower silage and corn silage are all good supplementary rations with alfalfa hay. In cases where inquiries are received, help is given in proportioning this feed for live stock feeding.

Diseases, Pests and Minor Ailments.--Several herds have been vaccinated for blackleg, one or two cases of bloat attended to and considerable help given in fitting live stock for show purposes. Arrangements have also been made for placing herds on the accredited list by testing for tuberculosis. A number of owners of herds are interested in this plan.

Equipment.--One silo was built and used for beef cattle feed. Help was given in the planning of three barns.

Production and Marketing.--The range men take care of this phase of their work cooperatively and local buyers purchase the small herds.

The following table shows the number of cars of cattle shipped from the project:

	<u>1916</u>	<u>1917</u>	<u>1919</u>
January.....	20	14	31
February.....	20	61	27
March.....	21	42	39
April.....	1	57	34
May.....	46	32	30
June.....	0	29	22
July.....	3	12	11
August.....	3	13	25
September.....	0	1	19
October.....	33	5	21
November.....	31	13	27
December.....	16	38	24
Total.....	194	317	310

Cooperative Features of the Industry.-- The Southern Idaho Hereford Breeders' Association, embracing seven Southern Idaho counties, and The Minidoka-Cassia County Short-horn Breeders' Association, were organized during the year. The object of these associations is to encourage pure bred live stock.

Future development of the Industry.-- The future development of the beef industry now seems to be entirely a matter of farmers raising pure breeds rather than grades, range and pasture conditions being the limiting factors.

Minidoka (Continued).

The Swine Industry.

High prices of grain, combined with shortage of labor, have had a tendency to decrease the proper development of the swine industry. The poor marketing facilities are also a handicap. The Minidoka project not being productive of high yields of ear corn, the swine industry necessarily remains a side issue to dairying and develops only as the dairy business develops. The following table gives the swine population of the project:

	1915	1916	1917	1919
North Side.....	20174	11931	6134	8094
South Side.....	<u>23759</u>	<u>11679</u>	<u>5765</u>	<u>7938</u>
Total on the project	43933	23610	11899	16032

Breeds and Breeding.--During the year the number of pure bred hogs has not materially increased. For the years 1918 and 1919 there was a decided decrease in hog production. One herd has been dispersed. One exceptionally good herd of Hampshires and a new herd of Duroc-Jerseys arrived recently from Iowa.

Herd Improvement.--While the hogs on the Minidoka project are not in great abundance, they are of exceptionally good quality over the entire project.

Feeds and Feeding.--A demonstration was carried on supplementary alfalfa pasture with a grain ration. All figures have not been compiled to date on this work, but will be rendered later. The present tendency in the swine industry is to raise and finish hogs on the by-products of the farm and dairy. At present one man who is feeding a large number of hogs pays the Rupert cheese factory thirty cents per hundred for whey to feed his stock.

Equipment.--There is considerable need for better equipment in connection with the swine industry, but due to the shortage of labor little has been accomplished in the way of building.

Diseases, Pests and Minor Ailments.--Five cases of supposed hog cholera were investigated in cooperation with Dr. Sullivan of the Bureau of Animal Industry. No outbreaks of hog cholera occurred during the year. Several cases of indigestion were found where death resulted from too rapid change of feeding methods.

Minidoka (Continued).

Relationship to other Local Industries.--The swine industry remains as a means of properly utilizing the waste and by-products of the farm. As the dairy industry increases, a reasonable growth of the hog business may be expected. Hogs do extremely well on alfalfa pasture, and can be very profitably raised in connection with the dairy cow.

Cooperative Features of the Industry.--The swine industry is not a major live stock industry on the farm and feeders of hogs do not take advantage of the cooperative features of extension work.

Future Development of the Industry.--There is a great deal of interest in pure bred hogs over Southern Idaho, and one or two men on the project are interested in them.

#### The Sheep Industry.

During the early part of the year there was a great deal of interest in the sheep industry on the part of owners of small flocks. However, dry weather, with corresponding shortage of hay and shortage of range, caused a serious scare during mid-summer. A large number of small flocks, and several large bands, were sold, and with the present precarious financial situation there will be no immediate improvement.

The following table shows the sheep situation on the project:

	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1919</u>
North Side.....	13,495	14,439	8,459	22,394
South Side.....	<u>3,453</u>	<u>6,590</u>	<u>16,432</u>	<u>18,712</u>
Total on the project	16,948	21,129	24,891	41,406

Breeds and Breeding.--The demand for pure bred rams which were sold during the months of August and September was not nearly so great as in former years, and prices were considerably lower at the ram sales held at Filer, Idaho, and Salt Lake City, Utah. Hampshires are the most popular breed on the project, and the best herd of Hampshires was dispersed and a large number of them went to Oregon. Several bands of eight or ten were bought locally.

Herd Improvement.--Two exceptionally good Hampshire rams were brought to the project during the year and are still retained here.

## Minidoka (Continued).

Feeds and Feeding.--Pasture conditions were poor in mid-summer, but later in the fall were considerably better. Hay was high priced and there was considerable scare over the possibility of wintering the sheep on the project.

Equipment.--The necessary equipment is a dry yard, a wind-break (preferably an open shed for protection from storms), and a closed lambing shed. Various buildings, such as barns, machinery sheds or tents, are used for lambing, although a permanent lambing shed with canvas or muslin for ventilation is favored and is provided where it can be afforded. A new type of open shed, facing, the east, is being used. As a rule, satisfactory equipment is provided.

Diseases, Pests and Minor Ailments.--Two cases of disease in sheep were investigated, but, other than that, little help was necessary.

Production and Marketing.--For a while an attempt was made to market the lambs from the small flocks, but this was given up as impractical on account of the distance from the main markets and help was given in the organization of a wool pool for marketing the wool, and the following from the County Agent's report, gives a history of that work:

"Upon the arrival of the county agent in Rupert, early in May, a wool-pool was found in the process of organization. Mr. E. F. Rinehart, Field Animal Husbandman, and Mr. W. E. Meyer, Agriculturist for the Minidoka Project, had done considerable work in instituting this organization. The work was then taken up by the county agent, Mr. Meyer having gone East to purchase some live stock for Cassia County farmers and was, therefore, unable to assist in the completion of the work. The county agent's office was given the responsibility and details of delivering the wool at a local warehouse early in May. This work was done in cooperation with a committee elected by the farmers, consisting of three men. Sixty-four farmers in the vicinity of Rupert pooled 36,418 pounds of wool. The wool was graded into four classes according to the kind of sheep on the farm, namely: fine, medium, long and mixed. Each sack of wool that was delivered was marked with the number of pounds, the owner's name and the grade. Attempt was made to have all wool sacked but a few small loose fleeces were accepted. Delivery of the wool to the warehouse was made during the month of May on each Saturday. Members delivering wool received a card showing the kind, amount and quality. From these cards it was easy to ascertain the total number of pounds of the different grades of wool. It was planned to have sealed bids submitted and disposition of wool made on June 5th. However,

## Minidoka (Continued).

heretofore, the wool on the Minidoka Project had been purchased by local buyers, who gave considerable trouble in the organization and general effectiveness of the pool. Their first method of attack was to offer considerable over market price to the three directors of the pool. These offers were flatly refused. The next thing done was to try to buy all the fine wool, in some instances paying a premium price. However, to the best of our knowledge, at no time did they pay more than 50 cents per pound for wool, but that was considered an exceptional price at that time. Failing to disrupt the pool in the above manner, the next thing done was to circulate a report to the few large buyers which were in the state during the month of May and June that all the good wool from the project had been purchased and that which was in the pool was sandy, burry, and generally the kind that was refused by the local firm.

During the middle of June, the wool market not looking over-promising, the county agent went out over the state to get in touch with buyers. The market was a trifle sluggish and no one seemed particularly interested in making a bid. One bid of 38 cents for long wool, 42 cents for medium and 48 cents for the fine was secured, this, with a full knowledge and understanding of the local firm. The local buyers had made a bid of 38 cents for the long, 45 cents for medium, and 50 cents for the fine. These bids were rejected and unless something better could be secured, the members of the pool decided to consign their wool. In the meantime, a telegram was received from the Oregon Woolen Mills, offering 41 cents for the long, 51 cents for the medium and the fine to be bid upon after examination. They were advised to send a man to look over the pool, which they did. He also offered 51 cents per pound for the fine wool, which, under market conditions, was not as much as should have been offered. However, a meeting of the members of the pool was called. Several hours before this meeting, the Oregon City Wool Mills' man advised that he would withdraw his bid on the fine wool, offering only 46 cents for it. This, of course, was considerably below the market price. Whether or not he had received some local information is questionable. However, from all appearances, some one must have furnished him information to the effect that the wool could be bought cheaper. At this time another buyer came on the scene, looked the wool over and, after giving a careful examination, offered  $50\frac{1}{2}$  cents for the wool as a blanket price. This allowed a payment of  $53\frac{1}{2}$  cents for the fine,  $52\frac{1}{2}$  cents for the medium,  $45\frac{1}{2}$  cents for the long and  $50\frac{1}{2}$  cents for the mixed. This bid, of course, was accepted by the pool, and everyone was very much elated over the enterprise. A permanent organization was established for marketing the wool for next year.

## Minidoka (Continued).

It might be of interest to add that in sections of Idaho where wool has not been marketed through pools, people received as low as 30 cents and in general the price offered these districts was considerably below 45 cents.

There is no doubt at all in the minds of the members of the pool or the writer's mind that the effect of organizing the pool had a very substantial tendency to increase the price paid to the farmers who were not members of the Minidoka County Wool Pool. Considering the quality of the wool, it is felt that the organization marketed its production for fully as good a price as was received in any place in the State.

In the organization of general effectiveness of the wool pool, a great deal of help was given by E. F. Rinehart and W. E. Mayer, who outlined the plans and in a general way made the work follow definite lines."

Relationship to other local industries.--The year of 1919 has been an adverse one for the small flock owner. Bad range conditions, with a shortage of hay, caused dealers to buy up a number of the small flocks at greatly reduced prices. It will take some time to build up the work again, and until sheep men feel that the wool and mutton market is on a more stable basis, the development of a large number of small owners will go rather slowly.

Cooperative features of the industry.--Marketing of the wool was the main endeavor. Two bands of 1200 were sent out from Cassia County as community bands in the Sawtooth Range. The cooperative band in Minidoka County was not reorganized. Considerable time and effort were spent in placing this on a firm basis and at the time the band was ready to leave, one or two members sold out, which disrupted the entire organization.

The weather on the range for the year 1919 was extremely severe. It was so dry that most of the feed on the range was inaccessible. This made the purchase of hay pasture and water imperative. Conditions in the forest were such (a dry, cold summer) that the sheep were unusually hard to hold, making extra help necessary. All this, combined with the increased cost of supplies and a 25 percent increase in wages, made an increase of 61 percent in the cost of handling the sheep as compared with the cost during the year of 1917.

Following is an itemized list of the expenditures:

Minidoka (Continued).

Flocks were assembled May 3, and disbanded September 17.

Months on range.....	4 $\frac{1}{2}$
Ewes turned out.....	1210
Lambs turned out.....	806
Total sheep on range.....	2016
Total sheep returned.....	1822
Number lost.....	184
Percentage lost.....	9.1
Expense of grazing land per season.....	\$2250.76
Expense of one ewe per month.....	.413
Expense of one ewe per season.....	1.86
Expense per band of sheep returned.....	1.23

Detailed expenses.

Camp supplies, including sheep salt.....	422.68
Herdng and camp tending.....	909.15
Locating and payment of strays.....	119.15
Horse and wagon expense.....	97.50
Purchase of pasture and hay on trail.....	186.25
Purchase of water on trail.....	33.90
Freight to and from forest across desert...	482.13

Future Development of the Industry.-- The industry will increase because of the capacity of sheep as scavengers or utilizers of waste feed on the farm. It will come largely as a result of more farmers keeping sheep rather than increase in size of flocks.

Horses.

The following statistics on the horse situation are worthy of note. There are exceptionally good horses on the project. Not many colts are being raised at the present time. With the increase of the farm work the demand for horses grows accordingly. There is a great demand for good horses in the early spring.

	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1919</u>
North Side.....	4,207	4,587	5,001	4,973
South Side.....	2,350	2,587	3,046	5,332
Total on project...	6,557	7,174	8,047	10,305

Minidoka (Continued).

Miscellaneous Shipping Data.

	Alfalfa	Barley	Oats	Wheat	Pota-toes	Hogs	Cattle.	Sheep
January	943			6	147	12	27	3
February	620				41	12	27	4
March	360			4	65	15	26	16
April	162			4	65	13	29	13
May	38			6	36	13	40	10
June	49				10	21	11	10
July	125			11	119	14	25	18
August	214			48	197	15	19	21
September	218			27	322	20	22	19
October	118	1		46	401	18	27	17
November	170		1	13	328	32	31	25
December	250			12	110	25	34	94
Total	3267	1	1	177	1741	210	318	250

As will be seen from the above table, practically five times as much hay and four times as many potatoes were shipped from the project than in 1917. Shipments of live stock were comparatively the same, with the exception that 73 more hogs were shipped in 1919 than in 1917.

General Summary.

Since the demonstration work has been started on the Minidoka Project farmers have made a big development. Agricultural extension work has also improved considerably. The farm bureau movement in Idaho is particularly well developed. With an efficient farm bureau in each of the two counties on the project, the agriculturist can best use his time as a live stock specialist with these two farm bureaus. This idea has been kept in mind during the past year's work.

A great deal of time has been devoted during the past year to the encouragement of good cooperation among the various breeders of pure bred stock on the project, and, in a limited way, among the owners of grade live stock. The cheese factory at Rupert and the calf club in Cassia County are examples of cooperation among the owners of grade dairy cattle. The breeders' associations which have been organized The breeders of Shorthorns and Herefords have formed associations. These two associations in themselves will do a great deal to develop the live stock industry in this section when they once secure the proper spirit of cooperation between the breeders.

## Minidoka (Continued).

There is no better way to encourage good farming, good spirit among the farmers, and better live stock, than by good, clean county fairs. The fairs at Burley and Rupert this year were exceptionally good.

Perhaps there is no better proof of the development of the live stock industry on the Minidoka Project than the fact that Minidoka County, one of the newest sections of the state, sent exhibits of various live stock to the State Fair and won more prizes than any other county in the State. Considering the distance from Boise and the newness of this section, this speaks very well for the live stock industry on the project. In this connection, Mr. Rinehart's work is highly commended by the results of the exhibitors at this year's fair.

Plans for Work During the Coming Year.--It is felt that the plan of making a project of the various types of work to be done will, in the long run, attain more efficient results in extension work here. Some projects or plans have already been worked out and more will be prepared in the near future. This office plans to co-operate with Mr. Rinehart in keeping a record of the cost of production of wool and mutton with three or four typical sheep farms on the project; and in developing the several breeders' associations to better standards of efficiency. Further help will be given in the development of the cheese factories. The purchase of more dairy cattle, better sires, the organization of a calf club in Minidoka County and the encouragement of dairy records are other phases which will be taken up. Plans have been made for the organization of a bull association, the development of which, however, will require some time. The pure bred sire campaign, as outlined by the Department, will be taken up early in the spring and developed in cooperation with Mr. Rinehart of the State Extension Office.

Numerical Summary.

Number of farm visits made regarding--	
Sheep.....	133
Beef cattle.....	89
Dairy cattle,.....	467
Swine.....	47
Miscellaneous.....	25
Total,.....	761

## Minidoka (Continued).

Meetings held on project,.....	41
Attendance,.....	2763
Meetings addressed,.....	38
Newspaper articles prepared,.....	51
Circular letters issued,.....	1991
Pure bred stock selected,.....	
Dairy cattle,.....	93
Beef cattle,.....	17 110
Grade stock selected -	
Dairy cattle,.....	34
Number of office calls from farmers....	2393
Number of requests for information and visits	3251
Number of visits made,.....	761
Miles traveled, -	
In Government automobile,.....	9255
In private conveyances,.....	1525 10780

-----00000-----





## **WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

**MAR 13 1920**

PERSONNEL

WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

BELLE FOURCHE EXPERIMENT FARM, ..... Newell, South Dakota  
    Bever Aune, ..... Superintendent  
    Geo. T. Ratliffe, ..... Assistant  
HUNTLEY EXPERIMENT FARM, ..... Huntley, Montana  
    Dan Hansen, ..... Superintendent  
SAN ANTONIO EXPERIMENT FARM, ..... San Antonio, Texas  
    A. A. Bryan, ..... Acting Superintendent  
NEWLANDS EXPERIMENT FARM, ..... Fallon, Nevada  
    F. B. Headley, ..... Superintendent  
    Morrel A. Powell, ..... Assistant  
SCOTTSBLUFF EXPERIMENT FARM, ..... Mitchell, Nebraska  
    James A. Holden, ..... Superintendent  
    David W. Jones, Jr., ..... Assistant  
UMATILLA EXPERIMENT FARM, ..... Hermiston, Oregon  
    H. K. Dean, ..... Superintendent  
YUMA EXPERIMENT FARM, ..... Bard, California  
    Edward G. Noble, ..... Superintendent  
    C. E. Peterson, ..... Assistant

DEMONSTRATIONS ON RECLAMATION PROJECTS

A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

BELLE FOURCHE RECLAMATION PROJECT, ..... Bellefourche, So. Dakota  
    E. H. Aicher, ..... Agriculturist  
HUNTLEY RECLAMATION PROJECT, ..... Ballantine, Montana  
    George A. Wright, ..... Agriculturist  
MINIDOKA RECLAMATION PROJECT, ..... Rupert, Idaho  
    W. E. Meyer, ..... Agriculturist  
NEWLANDS RECLAMATION PROJECT, ..... Fallon, Nevada  
    L. E. Cline, ..... Agriculturist  
NORTH PLATTE RECLAMATION PROJECT, ..... Scottsbluff, Nebraska  
    George O. Unruh, ..... Agriculturist  
SHOSHONE RECLAMATION PROJECT, ..... Powell, Wyoming  
    Don G. Magruder, ..... Agriculturist  
UMATILLA RECLAMATION PROJECT, ..... Hermiston, Oregon  
    , ..... Agriculturist  
UNCOMPAGRE RECLAMATION PROJECT, ..... Montrose, Colorado  
    H. A. Ireland, ..... Agriculturist  
YAKIMA PROJECTS, ..... John E. Watt, Agriculturist, Miller Bldg., Yakima, Wash.

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N

Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

---

Vol. XVII.

March 13, 1920.

No. 11

---

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the week ending February 21, there was a precipitation of .06 inch, which came in the form of heavy mist.

The maximum temperature recorded was 77, minimum 35, and greatest daily range 35. Foggy weather prevailed throughout the forenoons and although the afternoons have been generally fair, the fields have dried very little.

Plowing of field C5 was completed. An attempt was made to plow plats in field B6, in preparation for corn, but the ground was too wet. Johnson grass, weeds and volunteer oats were hoed from the rotation plats.

Orchards in A1, A3, B3, and E3 were pruned. New stakes were painted and set to mark the trees in orchards A1 and B3. Potatoes, peas, onions, lettuce, carrots, and radishes were planted in the garden east of the tennis court.

The seed house was given a fumigation with carbon bisulphide in an attempt to clean out the weevils which have badly damaged corn and milo seed.

During the week ending February 28, the maximum temperature was 89, minimum 31, and greatest daily range 36. Peach, almond, and plum trees, which have been blooming for the past two weeks, were apparently uninjured. A precipitation of .04 inch occurred during the night of the 27th.

Rotation plats B6-13 to 16 were plowed and plats B6-15 and 16 were subsoiled. Plats A4-7 to 10 were disked, harrowed, and bordered to prevent runn-off of rain. All rotation plats to be in corn in 1920 were disked and harrowed. Laguna corn, selected from the crop raised on the farm in 1919, was planted February 27 and 28. The seed bed was satisfactory on all plats except B6-14 and 16 which were plowed three days previous to planting and were very cloddy.

Field C5 was disked and harrowed. A good rain is necessary to put this field in satisfactory condition for planting.

San Antonio (Continued).

Manuring of rotation plats was continued throughout the week.

Approximately one acre of ground on the Slocum farm, one-quarter mile north of the experiment farm, was cleared of sorghum stalks and plowed. This field is to be used by the Office of Crop Acclimatization for cotton breeding work.

All field roads were cultivated for control of weeds.

Hand labor was employed in trimming and cleaning around the plants and walks of the grounds, in trimming the ends of rotation plats planted to field peas and oats, and in squaring up the ends of the grain and field pea variety plantings on fields C3 and D3.

#### Demonstrations on Reclamation Projects.

#### Field Notes.

Belle Fourche.

During the week ending February 21, eight office conferences were held and three farm visits made.

One day was spent in the preparation of letters to 75 farmers interested in the erection of a live stock sales pavilion. The meeting scheduled for February 18, was postponed due to restrictions being placed upon the county by the public health officials because of the influenza epidemic. No public gatherings could be held. From present indications, the pavilion proposition will be abandoned for this season.

Three office conferences were held and one farm visit made during the week ending February 28.

One day was spent at a combination sale, at which arrangements had been made to sell fifty head of registered Duroc-Jersey sows and gilts. Eleven head of heavy horses, mostly high grade Percherons, averaged \$200. Severe weather conditions prevented a better sale. The sale of swine was postponed, very little interest being shown in swine of any kind.

From present indications, the season of 1920 will show a marked decrease of swine under the average for the past three years. The fluctuating prices of 1919 and the car shortage is mainly responsible.

Weather conditions for the week have been severe and much suffering of range stock will result.

Huntley.

During the week ending February 21, there were received 16 requests for assistance, all of which were given attention. Ten conferences were held and four farm visits made. A farm bureau meeting was attended at Pompeys Pillar.

The demands for advice and information about blackleg are still consuming much of the agriculturist's time and plans for several demonstrations have been made.

The following table given some indication of the prices for which cows in milk, or about to freshen, sold at three public sales occurring during the week:

Breed	Number	Age	Range of Prices	Average price.
Grade				
Holstein	12	4-8yrs	\$50. - \$157.	\$90.25
Shorthorn	3	3-5	50. - 135.	92.00
Jersey	2	5-9	47. - 90.	63.50

During the week ending February 28, twenty-three requests for assistance were received, fourteen conferences held and eight visits to farms made. Two public sales were attended.

A heavy loss of pregnant ewes on one farm was investigated. Several autopsies failed to show lesions of any disease, and as the ewes are all aged, it appears probable that the owner has not fed properly. The animals had received nothing but hay until the losses began and, as the winter has been long and severe, they reached lambing time poor in flesh and weak. The addition of concentrates to the ration recently will probably prevent further losses.

An article on blackleg was prepared for the project newspaper. Milk samples from seven herds were collected, 40 of which were tested, and at the request of the experiment station, 5 cows at the U. S. farm were tested.

Minidoka.

During the week ending February 7, nine farm visits were made and fifty-one office calls were received. Three days were spent at Boise, Idaho.

The present cheese marketing situation is proving somewhat of a problem to the cooperative factory at Rupert and Acequia and a trip was made to Boise to confer with the manager of the Boise cooperative cheese factories in that field. From all Government reports and reports of private individuals engaged in the manufacture of cheese, it seems that at the present time there is a rather large surplus of cheese on the market with little chance of exporting the same to take care of domestic conditions.

## Minidoka (Continued).

A conference was held with the various extension people at Boise and it is pleasing to know that the very best of feeling prevailed between their office and the work as carried on through demonstrational work on the project here.

Some time was spent in Boise and vicinity looking up stock for the calf club here in Minidoka County, but roads were in such shape that little progress was made. One herd of 10 head was located which might be desirable. However, they are not quite the class of stock desired for calf club work.

Arrangements were made with the extension people for the exhibition of ten reels of pictures on various phases of live stock improvement.

During the week ending February 14, eight farm visits were made, four meetings attended, with a total attendance of 1000 people, 700 of those being in Minidoka County and the balance in Cassia County. 1390 circular letters were mailed during the week and 59 office calls were received.

Live stock films shown on the project consisted of two reels showing "Shorthorns in America", three reels on the "Development of the Sheep Industry", and five reels entitled "Hearts and Jerseys". This exhibit was very popular with all who attended and, considering the fact that there were only three days time in which to put the matter before the public, the attendance was rather remarkable. High School and several district schools were dismissed to permit the students to see the show. It is believed that these films did more educational work than could be accomplished through several weeks of extension work in the form of lectures and the old time institute. It would seem that this phase of bringing good agricultural methods before the public is one which should grow in the Department of Agricultural Extension.

With E. F. Rinehart, a program of work was outlined for the year. The work will largely be confined to silo building, calf club promotion, judging contests, pure bred sire campaign, cooperation in the development of the local fairs and a cost of production record kept on several sheep and beef farms, doing the work somewhat along the line conducted by the various cow testing association records.

During the week ending February 21, sixty-eight office calls were received, 15 farm visits made and 15 pure bred and grade Holstein cattle were secured from Jerome County for a Minidoka Project farmer.

Four days were spent gathering information and compiling the report of activities for the year. Five new members were secured for the calf club during the week.

Minidoka (Continued).

The county agent held three meetings with reference to the clover seed production on the project, which aroused a great deal of interest and enthusiasm. Mr. L. C. Aicher, superintendent of the Aberdeen experiment station, spoke at the meetings. He has his subject matter so well in hand that the confidence of the leading people of Minidoka County is placed in him.

There are, along the border of the Minidoka Project, a number of farmers in poor circumstances who welcome the extension man with open arms. A rather new innovation has been introduced by the county agent this year in finding a market for what has been heretofore a very damaging pest, the jack rabbit. The hides this year were pooled and have been consigned to commission men in the east with the prospects of receiving 80 cents per pound, which amounts to about 13 cents each for the hides. A man somewhat expert in skinning rabbits can skin ten per hour, which has proved rather profitable to some of the poorer farmers bordering the project.

Some time was spent in grouping the products of the Wendell, Rupert and Acequia cheese factories for marketing their cheese. A car of 30,000 pounds was pooled and placed before the various buyers in the Northwest for bids. It was unfortunate that when a fair bid for the cheese was received, neither of the parties wished to sell and the pool, necessarily, was disorganized.

The week ending February 28 was spent in conference with the extension workers of the State of Idaho, at Moscow. There are now 84 extension people in the State, 36 of them being county agents. The growth has been very rapid during the past several years and nothing but favorable comments could be made from the way in which the conference was conducted and the ideas promoted by the various State specialists at Boise. The Farm Bureau idea followed in Idaho seems to be one of the very best of ways of conducting extension and demonstration work. The matter of shifting responsibility and arousing interest on the part of the various people in small communities can certainly be accomplished by following the ideas of the farm bureau as outlined in this State. This method of extension work is proving particularly successful in Minidoka County on the project.

In furnishing pure bred calves for calf club work in the various counties, it is quite evident that we are getting into a phase of extension work where a good deal of money is involved and in making the various transactions, and prescribing methods of procedure for the calf club, care must be used in the various transactions and outlines which we wish to follow. A peculiar situation exists so far

Minidoka (Continued).

as Shorthorns and dairy cattle are concerned. The Shorthorn market is particularly good in Idaho, due to the demand made by range men combined with the interest on the part of the small farmer in the pure bred business. However, in the case of the dairy cattle it is extremely difficult to dispose of pure bred bulls and the men usually interested in pure bred dairy cattle are the men with small means who do not appreciate the value of keeping pure bred prices up to the proper standard. Consequently, in purchasing cattle from breeders with national reputations in the East, it is found that although the stock does not materially decrease in value when brought into Idaho, yet, on account of the marketing conditions of that stock, as regards the dairy demand, locally, the value decreases.

North Platte.

During the week ending February 28, ten farms were visited for general live stock work at the request of the owners.

On two of these farms the dairy cattle were found to be infected with contagious abortion and it was decided to vaccinate these cattle and see if the spread of the disease to other members of the herds could not be prevented. The vaccine has been ordered, but to date has not arrived. One farm was visited on which the hogs were found to have cholera, four head having died with the disease before this office was notified. There were 31 head remaining which were vaccinated with the serum-alone treatment.

On Tuesday the men of the valley owning pure bred Hereford cattle formed themselves into the North Platte Valley Hereford Association. At this meeting officers for the coming year were elected and plans made for an association sale to be held the fore part of April.

Shoshone.

During the week ending February 21, one farm visit was made, 25 office calls received and 5 other conferences held. Two milk samples were tested.

A deal was practically consummated this week in which the directors of the Powell Cooperative Creamery Company are to sell the holdings of the company to the Giese Brothers Creamery Company, of Billings, Mont. This deal was made with the help of the agriculturist. It is the agriculturist's opinion that this deal is a very important move in the promotion of the dairy industry on this project. This company is composed of three brothers who are thoroughly experienced in the creamery business. It expects to make all cream received here into butter, salt enough butter to supply the

## Shoshone (Continued).

local demand and ship the remainder unsalted to their Billings creamery to be used in the manufacture of ice cream. This company will be able to manage the local creamery more efficiently than the cooperative company has been able to do it and has a good outlet for surplus which has always been a serious problem in the past for those in charge.

The manager of the local farm of the Great Western Sugar Company is quite well pleased with beet top silage, which he is feeding to sheep. The tops were siloed in a trench which was dug with a scraper, being protected from dirt with straw on the bottom, sides and top. There is not only a great saving over pasturing them in the field but they are an excellent feed for ewes with lambs. These ewes are two years old and are now lambing the second time. They were well fed as lambs and seventy per cent of them lambed at one year of age and have made excellent growth.

During the week ending February 28, two farm visits were made, 30 office calls received and 4 other conferences held.

A newspaper article was written regarding the use of the forest reserve pasture this season. This week completed the receipt of applications for permits. The change of herder, and in arrangement for herding, seems to have encouraged farmers to send cattle again in spite of the bad results of last season.

Considerable time was spent in an attempt to arrange for a cooperative shipment of a car of cattle.

The treatment for the prevention of hairlessness in pigs was discussed with one man. Last year one of the farmers lost all of his pigs from this disease. All of this trouble reported from the disease during the last five years has occurred in one locality.

## Uncompakgre.

Weather conditions have been favorable to drying of roads and farm land this week and some travel has been possible. One trip was made to the upper part of the Project to see a bunch of Holstein cattle advertised for sale. A few farm visits were made in the vicinity of Montrose and near Olathe. A visit was made to Mr. Thomas to see beef steers on feed. These steers are high grade Hereford and Shorthorns and show good breeding and quality. They have been on hay feed for 100 days and on silage for 72 days. Mr. Thomas expects to feed them for another month and will lose money unless the market strengthens considerably. He could have sold the steers as feeders for 10 $\frac{1}{2}$  cents in the fall, and will hardly realize that for them fat.

Uncompahgre (Continued).

A part of the Uncompahgre project is under quarantine on account of the alfalfa weevil. This has worked some hardship on men who have hay to sell. Hay buyers, knowing that men in the quarantine zone could not ship their hay have offered prices which were not acceptable to growers, with the result that there is still considerable hay unsold. A plea was made to the State Entomologist to release this hay for shipment, and after conference with the county commissioners it was decided to suspend the quarantine on the outer part of the restricted area until the first of April.

The county of Montrose has recently purchased the property on which the Western Slope Fair has formerly been held. The present status of the local fair, therefore, is uncertain but it is assumed that the county will have a fair. The commissioners will take action upon the matter at their session in March.

Mr. H. A. Lindgren, former agriculturist for this project visited the project from Monday till Friday of the week ending February 28, and most of the agriculturist's time was spent with him in discussion of the work he had undertaken or had contemplated when he left the project on October 1, 1919, and in visits with men with whom he had worked. His visit was not only greatly enjoyed and appreciated, but should prove of much benefit to the work of the office during the coming year.

On the 24th, Mr. Judson Solomon, for years the project's most prominent breeder of pure bred swine and manager of the Olathe Cooperative Livestock Shippers' Association, dispersed his herd of Duroc-Jerseys at public auction. His offering consisted of 22 head of bred sows and gilts, three herd boars and a lot of young stuff. Females brought an average of \$60. which was somewhat higher than was expected on account of the fact that the attendance at the sale was small and made of local buyers, the "Flu" being prevalent at the time. The boars, some of them very strong individuals, sold very low. Mr. Solomon is moving to Olathe where he will continue to ship for the Association.

The president of a bull club organized by Mr. Lindgren was visited with him this week. The club seems to be in need of some rejuvenation but is still active.



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

MAR 20 1920

PERSONNEL

WESTERN IRRIGATION AGRICULTURE

C. S. Scofield, Agriculturist in Charge, ..... Washington, D. C.

<u>BELLE FOURCHE EXPERIMENT FARM</u> , .....	Newell, South Dakota
Bever Aune, .....	Superintendent
Geo. T. Ratliffe, .....	Assistant
<u>HUNTLEY EXPERIMENT FARM</u> , .....	Huntley, Montana
Dan Hansen, .....	Superintendent
<u>SAN ANTONIO EXPERIMENT FARM</u> , .....	San Antonio, Texas
A. A. Bryan, .....	Acting Superintendent
<u>NEWLANDS EXPERIMENT FARM</u> , .....	Fallon, Nevada
F. B. Headley, .....	Superintendent
Morrel A. Powell, .....	Assistant
<u>SCOTTSBLUFF EXPERIMENT FARM</u> , .....	Mitchell, Nebraska
James A. Holden, .....	Superintendent
David W. Jones, Jr., .....	Assistant
<u>UMATILLA EXPERIMENT FARM</u> , .....	Hermiston, Oregon
H. K. Dean, .....	Superintendent
<u>YUMA EXPERIMENT FARM</u> , .....	Barstow, California
Edward G. Noble, .....	Superintendent
C. E. Peterson, .....	Assistant

DEMONSTRATIONS ON RECLAMATION PROJECTS

A. C. Cooley, Agriculturist in Charge, ..... Salt Lake City, Utah  
318 Federal Building.

<u>BELLE FOURCHE RECLAMATION PROJECT</u> , .....	Bellefourche, So. Dakota
E. H. Aicher, .....	Agriculturist
<u>HUNTLEY RECLAMATION PROJECT</u> , .....	Ballantine, Montana
George A. Wright, .....	Agriculturist
<u>MINIDOKA RECLAMATION PROJECT</u> , .....	Rupert, Idaho
W. E. Meyer, .....	Agriculturist
<u>NEWLANDS RECLAMATION PROJECT</u> , .....	Fallon, Nevada
L. E. Cline, .....	Agriculturist
<u>NORTH PLATTE RECLAMATION PROJECT</u> , .....	Scottsbluff, Nebraska
George O. Unruh, .....	Agriculturist
<u>SMOSHONE RECLAMATION PROJECT</u> , .....	Powell, Wyoming
Don G. Magruder, .....	Agriculturist
<u>UMATILLA RECLAMATION PROJECT</u> , .....	Hermiston, Oregon
<u>UNCOMPAGRE RECLAMATION PROJECT</u> , .....	Montrose, Colorado
H. A. Ireland, .....	Agriculturist
<u>YAKIMA PROJECTS</u> , John E. Watt, Agriculturist, Miller Bldg.,	Yakima, Wash.

F. R. Ellis, Clerk, ..... Washington, D. C.

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

March 30, 1920

No. 12

Western Irrigation Agriculture.

Field Notes.

Newlands.

Report for period ending March 6, 1920.--A tractor demonstration was held on the farm February 21, at which time Field B 1 to 4, inclusive, and C1, was plowed and disked. Field C was plowed and disked, and later harrowed, as it is planned to have this plot in garden this year. Plots H8, 9 and 10, and E-1 and 2 were plowed and harrowed.

The following is the plan for fertilizer treatments on field B 11 to 22:

- Plot 11. Check.
- 12. Manure 15 tons and gypsum 1 ton per acre.
- 13. Manure 15 tons per acre.
- 14. Gypsum 1 ton per acre.
- 15. Check.
- 16. Manure 15 tons and gypsum 1 ton per acre.
- 17. Manure 15 tons per acre.
- 18. Gypsum 1 ton per acre.
- 19. Check.
- 20. Manure 15 tons and gypsum 1 ton per acre.
- 21. Manure 15 tons per acre.

Plots C 6, 7, 8 and 9 have been fenced for the purpose of experimenting with the relative value of alfalfa and sweet clover for pasturing hogs.

Most of the drain ditches have been burned out and cleaned. The annual pruning of the orchard is nearly completed. A wire trellis has been built to support the climbing raspberry and black berry bushes in the garden.

San Antonio.

The week ending March 6 was one of low temperatures for this time of the year in this region, there having been four nights when frosts occurred. The maximum temperature was 84, minimum 24, and greatest daily range 44. Only a trace of precipitation was recorded.

Mr. E. B. Brown, of the Office of Corn Investigations, arrived at the station Thursday morning to supervise the planting of a corn variety test on A3, and increase plats of corn selections in A3 nursery, F3, and the garden at the farm residence.

All rotation plats to be in grain sorghum in 1920 were disked and harrowed and on March 4 Dwarf Red Milo was planted in four 1-foot rows. As the seed had been badly infested with weevil, a thick planting was made, using approximately 18 pounds to the acre. The seed bed was quite dry and a rain will no doubt be necessary to start germination.

Plowing of rotation plats on which field peas and rye were planted for green manure was begun and plat A-4-18 was mowed for hay. Weights were taken of the green manure on four sections 4 by 4 feet on each plat. The estimated amount of green manure per acre turned under is given in the following table:

Plat Number.	Crop	Tons green manure per acre.	Approximate height	Stand
			Inches.	
A4-14	Peas	4.49	10	Fair
-18*	do.	5.17	11	Good
-19	do.	4.08	10	Poor
B4-17	do	4.96	10	Fair
B6- 7	do	6.94	12	good
- 9	do	8.28	12	good
-17	Rye	2.38	4	Fair.

\* Mowed for hay March 6, 1920.

Orchards A1, A3, and B3, and pomegranates on C3 were disked and weeded. The remaining cotton stalks on field C6 were mowed and raked. Field Peas on A4-18 were mowed for hay.

The first series of soil samples for 1920 were taken the first part of the week.

The week ending March 13 was very unfavorable agriculturally. Two nights the temperature dropped below freezing, the minimum for the week being 28. The maximum temperature was 84, and greatest daily range 42. Dry, strong winds prevailed throughout the entire week, causing oats, flax and field peas to show distress from drought.

San Antonio (Continued).

Peach, plum and apricot buds appear to have suffered very little damage from the late frosts. All almond buds and small fruit were frozen. The spring growth of figs, mulberries, and many of the ornamentals were killed.

Disking of orchards E3 and #4 was completed and orchard E3 was weeded. Field Ab-8 was double disked and harrowed in preparation for seeding Sudan grass.

Laguna corn was planted on field B4 in rows spaced at 4.1, 5, 6 and 7 feet, respectively, for the purpose of further investigating the value of corn and cowpeas in wide spaced rows. This field was planted to cotton in 1919.

Sumac sorghum was planted in 4.1 ft. rows on five rotation plats and in 8-inch drill rows on seven other rotation plats.

#### Miscellaneous.

Mr. E. B. Brown, of the Office of Corn Investigations, left for Waco, Texas, March 7. Mr. G. W. R. Davidson, of the Office of Crop Acclimatization, arrived March 10, to continue his investigations with cotton at the experiment farm and with growers of the vicinity.

#### Demonstrations on Reclamation Projects.

#### Field Notes.

#### Belle Fourche.

During the week ending March 6, seven office conferences were held and one farm visit made.

Mr. A. C. Cooley visited the project Monday and Tuesday of this week. A trip was made to Newell and a visit made to the experiment farm.

Part of one day was spent in a conference with Farm Bureau representatives. Plans were discussed relative to the membership drive to be held in this county in the near future.

Cattle scab has been found in two herds of cattle on the project. Over 1000 head have been exposed to the infection. Approximately fifty per cent of this number show infection. A state inspector spent three days on the project in an attempt to locate infection. A number of herds were inspected, but due to severe weather conditions, the work of locating and quarantining will be postponed until some moderation in temperature occurs. Reports are coming in of much loss of range cattle, a certain amount of which is probably due to scab. A general county-wide dipping program is being worked out through the county agent's office.

Belle Fourche (Continued).

One day was spent with three project farmers at a sale of registered Duroc-Jersey swine held at Rapid City. Three gilts were selected for one project breeder. However, in this case, the sale was also postponed because of weather conditions.

Snow and zero weather has been the rule for the greater part of the week. March 4 and March 5, the lowest temperature recorded was 22 degrees below zero.

Huntley.

During the week ending March 6, there were 18 requests for assistance and 14 conferences were held. Two farm visits were made.

The election of directors for the Ballantine Dairy Products Association took place last week. Due to the removal of one patron, and the purchase and use of a cream separator by another, receipts of milk had fallen to a few hundred pounds a day, and it was decided to close the factory temporarily on March 1.

Snow fell during four days of the week and during the latter part very severe weather occurred (30 degrees below zero). Live stock suffered much and travel became impossible except by train.

During the week ending March 13, there were 9 conferences, 6 farm visits made and 19 requests for assistance received.

Several owners of live stock were assisted in getting information relative to blackleg, and two demonstrations of the preventative treatment were made.

Dr. Plank, from the office of the Bureau of Animal Industry, at Helena, Mont., retested two herds of dairy cattle in which tuberculosis had been found previously. It was intended to begin at this time the undertaking of testing all animals on the Huntley Project, but the condition of the roads made it necessary to postpone the work for a month.

Several farmers were assisted in matters relating to the use and care of Government owned Holstein bulls.

Minidoka.

During the week ending March 6, sixty-six office calls were received, three farm visits were made, and practically the entire time was devoted to matters pertaining to the office, after returning from the Moscow conference.

One day was spent attending the annual live stock producers' conference at Spokane, in company with Mr. J. E. Watt, agriculturist on the Yakima Project.

Newlands.

During the week ending March 13, there were twenty-five calls for assistance received, and eight visits were made to farms in response to requests for assistance. In five instances requests for assistance in connection with udder troubles were received and assistance rendered. Assistance was given in connection with two cases of imfaction. It is very rarely that help is not asked for in two or more cases of imfaction each week. One case of milk fever was treated. In this case the animal was found down at milking time in the morning and by eleven o'clock, when the treatment was given the cow was in considerable distress and lying out straight. The udder was inflated as much as possible without injury to the organ, and in twenty minutes the animal was much easier. In a hour's time she was able to lie in a natural position and hold up her head, and seemed quite normal, except that she was unable to rise. She was left in this position with udder very tense with air until six o'clock, when she arose apparently in a normal condition. It has been the practice to use an automobile pump for inflating the udder. This makes it possible to get plenty of pressure in the udder within a short time, and is something that is almost always at hand on the farms at the present time.

The local hay market, which has been very active for the past month is gradually subsiding in amount of hay marketed. The price on cars at Fallon has reached \$26. to \$27. per ton, but only a small amount of hay remains to be shipped. Shipments of twenty-five to fifty cars of hay per day were very common during February and the first part of March. Offerings of \$15. per ton f.o.b. Fallon have already been made for the 1920 crop. This is the first time in the writer's experience that such advanced offerings for alfalfa hay have been made on the project. It is expected to stimulate materially the production of alfalfa hay the coming season.

Spring vaccination for blackleg has begun in the valley. Already several hundred head have been vaccinated. The farmers on the project are realizing more and more the importance of having this work done early to avoid loss. There is little need now for urging upon the people the importance of vaccination.

North Platte.

On Monday of the week ending March 6, a herd of 32 hogs having cholera were vaccinated with the single treatment and three of the hogs that had died previously were burned. Only two other farms were visited during the week for live stock work. One day was spent at Torrington at the land drawing and the remainder of the week was spent with Mr. Cooley in going over the work that has been done during the year and in making plans for continuing the work.

Shoshone.

During the week ending March 6, eight farm visits were made, 24 office calls received and 19 other conferences held.

The property of the Powell Cooperative Creamery was turned over to the Giese Creamery Company of Billings, Mont., this week and this company leased the property for one year to the Morris Produce Company of Powell. This company handles cream, poultry, eggs, hides, seed and coal. The Giese company claims that when they started to buy new machinery they found that it could not be obtained until midsummer and at that time they would be so busy with the ice cream business in their Billings creamery that they would have no time to install new machinery and start up the business. They claim, however, that they will be in position to start up the creamery next year. It was hoped that the Giese Company would be able to run the creamery this summer. However, it is probably better for the cream producers to have their cream handled by the Morris Produce Company than by the Cooperative Creamery. The Morris Produce Company can pay more than the creamery could pay for cream and if it does not pay what the cream is worth the farmers will ship to surrounding creameries. When the Cooperative Creamery was running and could not pay as much as surrounding creameries, some farmers sold out rather than ship. Plans are being made for a cooperative shipment of eggs, poultry and cream in order to regulate the prices on those products.

A cooperative shipment of a car of cattle to Omaha and the sale of a car of stock hogs for thirteen cents per pound, to an Iowa feeder, were arranged during the week.

During the week ending March 13, one farm visit was made, 64 calls were received and 14 other conferences were held.

A cooperative shipment of one car of cattle was made, 12 men cooperating in the shipment.

A load of stock hogs was delivered to an Iowa feeder this week at 13 cents per pound. He was well pleased with the hogs that he received and expects to be in the market for hogs next fall.

Cooperative shipping of cream was started this week. The farmer delivers the full can to the railroad station and ships it under the direction of the agriculturist. Those who shipped this week received about five cents per pound more than the local buyer paid.

A potato demonstration car was here Thursday in charge of agriculturists for the Burlington railroad and extension men from the state agricultural college. A number of people visited the car and attended a meeting which was held in one of the local halls and which was addressed by the visiting speakers. The agriculturist assisted in arranging for the demonstration and presided at the meeting.

## Shoshone (Continued).

There was a large attendance at the land drawing which was held here this week and a number of office calls were received regarding the handling of new land. There was general disappointment in the kind of land open for entry and in the small chance of obtaining land with so many filings.

Uncompahgre.

The greater part of this week has been spent in Denver and enroute to an from that point. The trip was made for the purpose of conferring with Bureau of Markets agents as well as with others regarding the cooperative shipping of live stock. Managers of shipping associations had been especially invited to attend this conference but those from the two associations here were unable to go. Some time was spent with representatives of commission firms at the Union Stock Yards in discussions of proper handling of cooperative shipments at the market, grades of cattle and hogs and sheep most in demand on the Denver market, and related subjects. Managers of shipping associations and others discussed the marking of separate consignments of cooperative shipments, handling stock to reduce shrinkage in transit, accounting systems for associations, etc. A visit was made to the packing plant of Armour and Company.

Federal and state veterinarians were consulted regarding hog cholera control on the project, cholera having appeared here last week in virulent form. The infected farm was visited upon return to Montrose and very unsanitary conditions were found.

On Saturday the directors of the Olathe Hog Shipping Association met at Olathe at which time a report of the Denver conferences was given. At this meeting the directors voted to have the association carry its own insurance on stock shipped instead of insuring with insurance companies as had been done. The manager reported that more than \$25,000 worth of stock had been shipped through the association since November 10, 1919.

MISCELLANEOUS.

Mr. E. H. Aicher has tendered his resignation as agriculturist for the Belle Fourche Reclamation Project, to accept a position as county agent in South Dakota, effective April 1.





**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

*MAR 24 1920*

卷之三

1. 1. 1. 2

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE

And

DEMONSTRATIONS ON RECLAMATION PROJECTS.

---

Vol. XVII.

March 27, 1920.

No. 13

---

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the week ending March 20, the maximum temperature was 84, minimum 40 and greatest daily range 31. A trace of precipitation was recorded on the 19th. The week was more favorable for plant growth than the preceding week, although the continued drouth is holding back the grain and flax plantings.

Corn and milo maize on the rotation plats, and corn in the variety test and breeding blocks has come up to good stands. Meadow larks and pigeons have damaged some of the plats severely. Poisoned grain has been scattered over the corn plats and a man with a shotgun has been kept in the fields throughout the week. The larks apparently do not care for the unsprouted grain, but prefer to dig up the corn after the plant has come through the soil. Farmers in this vicinity report that their entire plantings have been ruined.

Sudan grass was seeded on rotation plats A6-17 and B4-16. Field C6 was plowed and disked.

Demonstrations on Reclamation Projects.

Belle Fourche.

Field Notes.

During the week ending March 13, four farm visits were made and nine office conferences were held.

Four copies of plans of a sheep feeding yard with equipment were delivered to project farmers during the week.

The following report from a project sheep feeder has been received:

## Belle Fourche (Continued).

Number of lambs fed,	1369
Original cost of lambs,	\$ 8021.90
Interest on cost at 8% for 4 months,	<u>213.95</u>
Total lamb cost, with interest,	\$ 8235.85

Feed cost.

139.5 tons alfalfa hay @ \$20.	\$2790.
494 bags beet pulp @ \$2.15,	1062.10
44,291 pounds corn @ \$2.566cwt.	1136.51
14,000 " oats @ \$2.35	329.00
Pasture (beet top and otherwise)	<u>400.00</u>

Feed cost...\$5717.61

Interest on feed bill at 8%.....	<u>152.47</u>
----------------------------------	---------------

Total feed cost....	5870.08
---------------------	---------

Charge for labor.....	<u>200.00</u>
-----------------------	---------------

Total expense, including original cost, feed cost, labor and interest.....	\$14,305.93
---	-------------

Net sales on 1329 head.....	\$16,146.61
-----------------------------	-------------

Net cost on 1369 head.....	<u>14,305.93</u>
----------------------------	------------------

Net profit.....	\$ 1,840.68
-----------------	-------------

-----

## Loss 40 head

Average original weight per head.....	55.48 pounds.
Average final weight per head.....	75.06 "
Average net gain per head.....	19.58 "
Net selling price per head... (feed)...	11.79
Net cost per head plus labor... (feed)...	4.41
Sheep cost per head.....	6.02
Net profit per head.....	1.36
Profit on investment.....	13%

During the week ending March 20, seven office conferences were held. No farm visits were made, because snow and mud have made the roads impassable.

One conference was held with the city health officer relative to a sanitary milk supply for Belle Fourche.

Four hundred and thirty circular letters urging increased hog production for 1920 were sent out to project hog growers. Also 230 letters were forwarded to sheep growers relative to the planning of sheep feeding operations this fall. Plans of equipment necessary have been prepared and are ready for distribution to project farmers upon request.

## Belle Fourche (Continued).

A report has been received regarding the project wool pool. The local representative of the wool house receiving the consignment has notified the members of the pool that the company is willing to close out the pool holdings at present market price if acceptable to the growers. Those wishing to do so may close now. Those not wishing to close now will be carried until such time as the price is better. The long wools in the pool have been slow of sale. The fine wools have been sold for some time. The price quoted is about 60 cents, for coarse grades and 62 cents or 63 cents for fine grades. This will net them more than if the wool was sold locally. From present indications the growers will be satisfied with the returns.

## Huntley,

During the week ending March 20, there were 13 conferences, 3 farm visits made and 16 requests were received for assistance.

A farmers' institute was held in Worden, March 16. About 150 adults attended a part of all of the lectures, the afternoon session drawing larger crowds. W. E. Thomson, Dairy Specialist and Dr. E. H. Riley, veterinarian, both from the State Agricultural College, discussed dairy and veterinary subjects. One of the attractive features was a dinner served by the girls in the Domestic Science course of the Project High School. As the roads were in such shape as not to permit the use of cars, the attendance was considered good.

A demonstration of blackleg vaccination was made on one farm, 20 calves being treated.

## Newlands.

During the week ending February 14, there were received thirty-six calls for assistance and seven visits were made in response to calls to farms.

One instance of alkali poisoning in hogs came to notice during the week. Some difficulty has been experienced in this herd of hogs for some time but the matter has not been brought to attention until recently. The hogs have been unthrifty and there has been an occasional loss. Cholera was suspected, but post mortem examination showed no cholera. With further difficulty in the herd and upon inquiring into the method of management, it was found that the only water given the hogs was soapy water that had been used for washing dishes. This had been practiced since the pigs were quite small. With a change in feeding and watering practices the herd began showing improvement. This is the second instance of alkali poisoning in hogs that has come to notice recently.

Newlands (Continued).

For the week ending February 21, there were received twenty-nine calls for assistance. During this week there were no visits made to farms. This is the first time in the writer's experience on the project that one visit per day on an average has not been made. All visits were deferred so that time could be allowed for work on the annual report. Herd testing work was performed for two of the larger herds on regular test. Assistance was rendered one party in locating and purchasing a registered herd bull.

Considerable trouble has been experienced recently with what is known as hematuria, or red water in cattle. The writer has been called upon to assist in handling several of these cases recently. The animals invariably start out with the following symptoms: decreased appetite, infrequent rumination, thin passage in small amounts, and the urine appearing coffee colored. These symptoms continue, but increase in severity with increased temperature, except the passages which invariably show signs of constipation after two or three days. The treatment that has been practiced by the writer from the start has been epsom salts in one large dose at the beginning, followed by half-pound doses each day afterward. If constipation seems severe, a large dose of raw lindseed oil is given twice a day. In connection with the physics, such stimulants as tincture of iron in dram doses and fluid extract of nux vomica in two-dram doses are given in water two or three times a day. After two or three days of such treatment the urine invariably clears up and the animal shows relief, though complete recovery seldom takes place in less than one week. This treatment has proved very satisfactory in a large number of cases.

North Platte.

During the week ending March 13, the time was entirely taken up with dairy work. A conference was held with some of the Board of the Creamery Company, relative to the work of installing the whole milk condensery and the Manager of the company reported that the machinery would be installed and in running order in at least sixty days.

A number of farmers who are interested in dairying were visited during the week and assistance given them in various ways. Two milking machines have been installed by dairy farmers living near Scottsbluff during the week.

A vaccine to control contagious abortion was tried on a herd of pure-bred Jerseys the past week. Several of the cows in the herd have aborted several times and for this reason the vaccination method of control is being tried.

## Yakima

Twenty farms were visited, five office calls had, one conference held during the week ending February 21.

Considerable time was spent in the Wide Hollow country in the vicinity of Harwood and Wiley City, investigating the possibilities of reorganizing the Harwood Creamery Company. This company was organized some few years ago, but did not meet with the best of success, due to several different causes, among which was the shortage of cows. Some of the farmers, however, are quite optimistic and hope that this company can be reorganized and more cows secured so that a closer local market may be made available.

Seventeen farms were visited, two meetings attended, two conferences held and four office calls had during the week ending February 28.

On Tuesday of this week a meeting of the live stock committee of the Washington State Fair Association was held at this office. The purpose of the meeting was to discuss plans for remodeling some of the buildings, state fair grounds, to readjust the premium list and to discuss plans for increasing interest in the State Fair. It is realized by the local men that a good live stock showing at the State Fair has a decided effect on stimulating interest in a better quality of live stock, and this year there is a renewed interest in the live stock committee of the fair association.

On Saturday a meeting of the Duroc-Jersey Hog Breeders at Grandview was attended. These breeders got together for the purpose of organizing the breeders of this class of hogs in order to stimulate interest in the Duroc-Jersey breed, and to discuss plans for the State Futurity to be held at the time of the State Fair and local futurities in Yakima. This meeting was well attended, especially by a class of boys who are just beginning and who received their first experience in the pig club work.

AGRICULTURAL DEVELOPMENT ON THE HUNTLEY  
RECLAMATION PROJECT IN 1919.

By. Geo. A. Wright.

General statement.--The growing season of 1919 was in some respects very discouraging to farmers. There had been a deficient precipitation during the preceding winter--a condition which continued until late summer. Farmers were unprepared, either from the standpoint of machinery or experience, to irrigate crops up, consequently a considerable acreage seeded to beets was reseeded to grain when the farmer failed to germinate. Of the 3000 acres signed up for beets, only 1133 acres were harvested. Attempts to irrigate grain up, in many instances, resulted in a poor stand, due to the exceedingly hot weather occurring at that time, causing the heavy soil to bake. In addition to these handicaps a heavy snow, which is not yet completely removed, covered the ground about the middle of October, preventing the harvesting of many tons of beets, making it impossible for the stockmen to use the roughage in the fields or do the usual amount of fall plowing.

The irrigation system, in spite of the abnormally light rainfall, furnished sufficient water for all the farms where application was efficient, and never in the history of the project has a larger crop of alfalfa been produced. In contrast to last season, practically all the hay went into the stack without being damaged by rain. Of the 1918 crop approximately 2500 tons was shipped off the project. It is believed that a larger amount of the 1919 crop has been contracted for by outside buyers, but owing to the fact that much of it has not yet been delivered, accurate data cannot be produced at this time. The price received for hay in the stack ranged from \$15 to \$25. per ton, and has, considering the project as a whole, tended to offset the reduced returns from other farm products. The Reclamation Service reports 608 settlers.

The dairy industry.--The Reclamation census shows a small increase in the number of dairy cattle during 1919. There are no large herds. Scarcely a dairyman milks more than 20 cows and very few milk a dozen. This characteristic of the industry is largely the result of the settlers being limited to 40-acre tracts.

Though there has been no marked increase in dairying, there is a growing sentiment in favor of improving the quality of milk cows. No one thing has contributed more to this sentiment than the practice of the Huntley Experiment Farm of permitting farmers to keep and use Government-owned bulls of good quality. Under agreement, the users of these males must keep

Huntley (Continued).

their herds free from tuberculosis, and weigh and test milk regularly. If this policy should be continued it must result in more rapid and more general improvement than would otherwise occur.

The Holstein greatly predominates as a dairy breed and most of those keeping grade females use registered bulls. During the latter part of 1918 a car load of pure bred females were secured by several dairymen in cooperation, and during 1919, six farmers each secured from one to three registered females. There are comparatively few Jerseys or Guernseys, though the largest herd of milk cows belonging to a project farmers consists of grade Jerseys.

There are now many irrigated pastures which are bringing much improvement in feeding conditions. A few dairymen feed beets, beet pulp, molasses, or the grains, but the greater number still use alfalfa hay as a ration exclusively. No silos were constructed during the year, though several men have expressed an intention to do so in the future. During the fall and winter months, owing to the high price of hay, discouragement was evident among dairymen, but whether it will result in a decrease in the number of cows milked remains to be seen.

Two dairy barns were erected, one of which is a very good one, but too often buildings are lacking in size and quality. The unusually severe winter weather has emphasized the need of better buildings for live stock.

The greater part of the cream produced has been marketed through the Worden Creamery and the Ballantine Dairy Association, the remainder goes to creameries located at Billings, Montana, excepting a small amount sold as sweet cream. The Worden Creamery, a privately owned concern, operates very successfully, producing butter of excellent quality which finds a ready sale. The Ballantine Dairy Association, or Cheese Factory, will be discussed briefly under "Cooperative organizations."

The following is a table showing the average monthly price of butterfat both at the Worden Creamery and the Ballantine Cheese Factory:

Huntley (Continued).

	Worden Creamery	Ballantine Cheese Factory.
January	\$0.60	\$0.69
February	.48	.60
March	.57	.72
April	.66	.70
May	.60	.74
June	.51	.69
July	.50	.66
August	.57	.62
September	.58	.60
October	.63	.70
November	.67	.66
December	.65	.50
Average monthly price	\$0.585	\$0.657

The swine industry.-- During the year of 1919, the swine population increased about 29 per cent, but during the latter months of the year unfavorable conditions existed. No corn was produced in the surrounding dry land regions and very little grain of any kind because of drought. Several carloads of corn were purchased cooperatively and laid down for \$2.85 to \$3.00 per cwt. When secured from local dealers it cost \$3.25 per cwt. Snow covered alfalfa pastures so early that a more extensive use of grain than usual became necessary, both for the maintenance of breeding stock and the fattening of animals for market. The local price for hogs is always 2 cents below the Omaha market. As a result of these conditions, it appears certain that few farmers are deriving a profit from hogs marketed during the winter. Those who have a supply of skimmed milk or whey are naturally faring best.

The main feeding system has been alfalfa pasture with corn, barley, or wheat, with an almost exclusive grain ration for the fattening period, except when skimmed milk is available. Growing hogs can generally be made profitable, but until conditions change, finishing is likely to result in a loss to the feeder.

By far the greatest number of hogs on the project are Duroc-Jerseys and the proportion of pure breeds is large. This is due to the fact that the U. S. Experiment farm breeds Durocs and has provided at close hand a considerable number of registered animals of good quality at a moderate price; to efforts made by the agriculturist and others to encourage the adoption of that breed, and to the influence of the Boys' and Girls' Pig Clubs.

Huntley (Continued).

Most of the hogs produced are sold to local butchers or other local buyers. One of the reasons for encouraging the adoption of one breed for the Huntley Project was to make cooperative shipping more profitable, but as yet no marketing of hogs in this way has occurred.

Beef cattle and sheep.--The census shows that there are now 2631 beef cattle, an increase of 818 over 1918. Until 1919 practically all females were grades, and the males, though some of them were registered, were generally scarcely up to the average in quality. During the last year several farmers secured better bulls; one purchased eight Shorthorn heifers, and through the Boys' and Girls' Clubs, registered females were placed on a number of farms. Several of these owners are planning to produce pure bred stock. There is only one herd of registered Herefords and it is small as yet.

Sheep raising has been of little importance in the past, but interest is increasing. A few farmers have small flocks; other than these the sheep handled are chiefly lambs or ewes, purchased in the fall to be fed hay on the farms and sold before the beginning of spring work. A comparatively small amount of hay was sold in the stack to sheep men not living on the project on the condition that it be fed on the farms. This practice should be followed more extensively, but lack of buildings, corrals, and watering facilities, and the small size of the farms are obstacles to the feeding of either sheep or cattle on a large scale.

Reclamation Service Live Stock Census.

January 1, 1919.

	No.	Value	Total Value.
Horses.....	2120	\$108.70	\$230,435.00
Mules.....	51	107.16	5,465.00
Beef cattle....	1813	51.08	92,518.00
Dairy cattle....	1923	60.18	115,727.00
Sheep.....	1130	13.41	15,153.00
Hogs.....	2391	18.07	43,205.00

Huntley (Continued).

December 31, 1919.      Increase during 1919.

	Number	Value	Total value	Number	Value
Horses.....	2297	\$110.00	\$252,670.00	177	\$22,235.00
Mules.....	46	81.50	3,749.00	* 5	*1,716.00
Beef cattle...	2631	47.70	125,498.00	818	32,980.00
Dairy cattle..	2040	62.30	127,092.00	117	11,365.00
Sheep.....	2115	8.40	17,766.00	985	2,613.00
Hogs.....	3097	13.64	42,242.00	706	*963.00

\*decrease.

Cooperative organizations.--The Farmers' Cooperative Store at Worden did a business amounting to about \$70,000 during 1919, and apparently is operating successfully. "The project Supply Association" at Osborn was organized during the fore part of the year. It was hoped that this organization would get into shape to handle live stock shipments, but it has been unfortunate in having to change managers several times from one cause or another, and very little has been accomplished except in the direction of handling fuel and supplies.

The "Ballantine Grain Association" was organized last spring by business men and grain growers and during the summer erected an elevator costing \$16,000. Notwithstanding the fact that grain production was abnormally low, the business paid expenses.

"The Ballantine Dairy Products Association" has been in operation for a number of years, but several causes have made the business less successful during 1919 than previously. Recently, changes in the system involving a reduction of expenses were made. About 1500 pounds of milk is now being received every other day, which scarcely more than pays operating expenses.

Statement of activities.--The work of the agriculturist after March 1, 1919, was directed toward the development of the dairy and swine industries, chiefly, with a smaller amount of time given to sheep and beef cattle problems.

Efforts to promote dairying have necessitated a variety of activities, but the assistance given to farmers in determining the returns from cows, and in the direction of supplying information upon feeding, breeding and other dairy questions has occupied most of the time. The owners of seven herds are now regularly testing and weighing milk and keeping records of feed and production. Though only a small number of cattle have been imported, there have been many requests for assistance when exchanges have taken place on the project, and in the selection of registered breeding stock,

Huntley (Continued).

the agriculturist has been quite generally called upon to advise. The cooperative shipments, though including beef animals were undertaken mainly for the purpose of enabling dairymen to dispose of surplus or undesirable dairy animals to a better advantage. All the assistance possible was given to make the local live stock show, at the Huntley Experiment Farm, occurring in July, as well as the project exhibits displayed at the Midland Empire Fair, stimulate interest in and contribute to the development of both the swine and dairy industries. Dairy cattle judging demonstrations for the public school pupils have also contributed to the interest in dairying.

An increased interest in irrigated pastures was evident during the year. Several were seeded during the late summer and fall and the seeding of others in the spring is contemplated. Farmers who have already used such pastures one or more years find them satisfactory and profitable.

Work in connection with swine has related to the selection of breeding stock, improvement of type, breeding, feeding and diseases. The foundation for considerable improvement was laid during the spring and summer, but the unfavorable conditions to which producers have been subjected since make it difficult to tell at this time how much will materialize. The work of the Boys' and Girls' Clubs, of which the direction fell to the agriculturist by accident, added to the interest in the Duroc-Jersey breed.

Matters pertaining to the diseases of farm stock have occupied considerable time. The purpose at all times has been to emphasize the removal and avoidance of causes as far as it is possible for the owner to do so by providing sanitary surroundings, proper feed and care, and to demonstrate treatment only in such simple cases as the farmer should be able to handle himself. It has been difficult at times to keep this work from getting out of bounds, but gradually, I believe, stockmen are coming to understand where and why a line should be drawn.

Cases of blackleg were not sufficient in number to make it important to emphasize the wisdom of preventive treatment. Demonstrations were made on 13 farms during which 278 calves were treated, with favorable results except in one instance.

This office has cooperated with veterinarians of the Bureau of Animal Industry in the eradication of tuberculosis by supplying information to the owners, making arrangements preliminary to testing, and assisting in other ways. 283 animals were tested of which only two were condemned and slaughtered.

Mycotic stomatitis is quite prevalent, especially during the grazing season, and persistent effort has been made to induce stockmen to give affected animals good care and proper treatment, as a failure to recover is rare when intelligent attention is given.

Huntley (Continued).

A number of cases of hairlessness in pigs, associated with difficulty in farrowing, came under observation during the season. Though the disease is not general, the losses of sows and pigs were heavy enough to justify advertising the general use of the simple, inexpensive preventive treatment which has proved so satisfactory in other localities.

The project appears to be comparatively free from the abortion disease, though a few suspicious cases have been noticed, and hog cholera is unknown. Bloat causes some loss and lice on hogs receives frequent attention. In general, losses due to disease are not excessive.

A part of the activities of the office from March to December, inclusive, are summarized as follows:

Number of farm visits.....	777
Number of requests for assistance.....	607
Number of conferences.....	392
Number of samples of milk tested.....	376
Number of samples of cream tested.....	19
Number of cattle marketed cooperatively.....	79
Number of stock judging demonstrations.....	21.

-----oo-----



## **WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

**APR 3 1920**



W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

April 3, 1920.

No. 14

Western Irrigation Agriculture.

Field Notes.

Newlands.

All plats on Field B have received their fertilizer treatments, and have been disked, leveled and made ready for seeding.

The orchard and garden (Field A-2) was manured. Some varieties of grapes and asparagus were set in Field A-3. Aluminum labels were attached to all orchard trees which had not been previously labeled.

The following plats were disked: D1, 5; E5, 6, 7, and 8; F1, 3, 4, 13, and 15; and G1 to 5 and Y9 to 18.

The following plats were seeded to Little Club wheat: D1 and 5; E1, 2, 7, and 8; and F4 and 16. Plats F5 and 6 were disked and leveled.

The cleaning of ditches and repairing of irrigation gates and boxes is still in progress.

San Antonio.

During the week ending March 27, the maximum temperature was 86, minimum 41, and greatest daily range 37. A total of .45 inch of precipitation occurred; .02 the night of the 23rd and .43 the night of the 24th. The greatest good done by this rain was in pulverizing the clods and helping to firm the seed bed of newly planted crops. Although the rain wet down to the soil moisture, it was followed by two days of strong, dry north wind, which dried the top soil rapidly.

A planting of Sudan grass was made, at the rate of 25 pounds of seed per acre, on Field Ab-8 for the purpose of observing the residual effects of the chemical fertilizers which have been applied to sections of this field in connection with the study of cotton root-rot control. Two acres at the north end of the field C5 was also seeded to Sudan grass, at the same rate, to be used as summer pasture for steers.

## San Antonio (Continued)

Field C4 was disked, following the rain of the night of March 24, but another good rain will be required to properly pulverize the clods on this field.

All farm roads were cultivated to keep the weeds down.

Practically all plants in the greenhouse have been repotted, transplanted in the nursery, or set out in permanent positions about the grounds. The old soil in the greenhouse is being hauled out and new soil is being put in its place. Apple and pear trees in orchard B3 were sprayed for the control of San Jose scale. Dr. lime-sulphur was used at the rate of  $2\frac{1}{2}$  pounds to fifty gallons of water.

Hand labor was employed in re-lining the furnace pit in the greenhouse with brick, weeding in the orchards and along the Corpus Christi road fence, repairing fences and working on the grounds.

Demonstrations on Reclamation Projects.

Huntley.

Field Notes.

During the week ending March 27, eight conferences were held, 13 farm visits were made and 17 requests for assistance received.

During the latter part of the week the roads became almost dry, and are now in a better condition than at any time since winter set in. All of the herd owners whose cows are being regularly tested were visited and conferred with about keeping records of the time pastures are used during the coming summer. The remainder of the week was given chiefly to questions about calving, breeding and feeding. In company with a prospective dairyman a trip was made to one of the established dairy farms on the project and to the U. S. Experiment Farm, at Osborn. One demonstration of blackleg vaccination was made.

## Minidoka.

Fifty-one office calls were received and 12 farm visits were made during the week ending March 13. One meeting was attended and addressed, with 18 people present.

Work on the sale of cheese from the local factory was one of the main problems of the week. A meeting of all the stockholders was held on Saturday night and arrangements were made for a new method of financing the cheese factory; namely, that of allowing the patrons to wait one month for their money. In this way the factory avoids borrowing money at the bank and also is able to pay a price on the butterfat in proportion to the cheese market at the time the sale of cheese is made.

## Minidoka (Continued).

Help was given in two cases on arranging plans for silo construction. The silo movement is one which is due to grow rather rapidly during the next several years on the Minidoka Project. Everyone seems to feel that the silo is the coming means of conserving roughage on the small irrigated farms here. There has not been one unfavorable comment on the silos constructed during the past year.

When the writer first came here, help was given in one or two cases in adjusting Holstein papers and bringing them up to date. While this is a good work and necessary for the pure bred Holstein man, it seems now as if every pure bred Holstein on the Project has some correction or further change to be made in the papers which has taken a considerable length of time. While the pure bred Holstein papers are more complicated than the average pure bred breed, if they are not kept up the new breeder becomes discouraged with the trouble involved and either lets the papers go entirely or gives up the business.

During the week ending March 20, eighteen farm visits were made, one meeting attended, with 40 people in attendance, and 71 office calls were received.

A meeting of the members of the calf club was called for the purpose of ascertaining the spirit of the members as to purchasing calves for the club. After going over the outside correspondence, it was decided that local stock would be better for the calf club than purchasing pure breeds not used to our conditions. Twelve Shorthorn breeders signified their willingness to purchase cattle for the calf club from local Shorthorn breeders.

One day was spent going over a herd of grade dairy cattle which was purchased from Wyoming last fall. At that time the man was enthusiastic over the dairy outlook, and he was given help in purchasing the right kind of stock. He has now decided to purchase more land and wishes to discontinue the dairy business. One serious criticism of the agricultural development on the Project is that farmers are continually changing from one thing to another with the result that they lose money and do not center themselves on one or two good standard livestock farming methods. This condition also proves a handicap to extension work.

## Newlands.

Considerable time was devoted during the week ending March 6 to finishing up work on the annual report. The regular monthly herd testing was performed for three herds. The production of these herds varies from 25 to 28 pounds of butterfat per animal. A mixed Jersey and Guernsey herd has invariably led each month in the highest butterfat production.

## Newlands (Continued).

A visit was made to one dairy herd to give some instructions in the matter of herd management and to see a number of high grade Holstein heifers that were sired by a bull purchased through this office three years ago. These heifers were from a miscellaneous lot of cows, while the heifers themselves were very uniform in color and type, and every one showed every indication of being a promising producer. The efforts that were put forth by this office in the importation of good bulls, when this office was first established, are showing up in very gratifying results. In many instances these good bulls have been exchanged, so that their good qualities will be handed down for several years to come. During the past week one of such animals was transferred to serve the third herd since coming to the project. With this particular bull the female off-springs have invariably been very excellent cows.

There were received during the week twenty-three calls for assistance and visits were made to four farms.

## North Platte.

During the forepart of the week ending March 27, five farms were visited for dairy work and the herd of purebred cattle under treatment for contagious abortion was again vaccinated. One farmer was assisted in getting an official tester to keep seven-day records on his herd. On Tuesday night we had twelve inches of heavy, wet, snow that gradually melted during the remainder of the week. On Friday a band of sheep was inspected at the owners request and was found to have scab. The State veterinarian was notified. On Saturday we had another rain and snow storm combined. A great many of the cattle on feed in the valley are being shipped to market at a loss, the average loss being from \$20. to \$35. per head. Butterfat is selling at 57 cents per pound.

Owing to the bad condition of the roads and the weather there was very little field work done this week. Five farms were visited for dairy work, at one of which places a herd of pure bred dairy cattle was vaccinated against contagious abortion. These cattle are being given treatments with bacterins every seven days, the size of the dose being increased each time. Since the treatment was started none of the cows has aborted and they show every indication of being well and healthy. Three treatments have now been given.

Shoshone.

During the week ending March 20, 28 office calls were received and 7 other conferences were held.

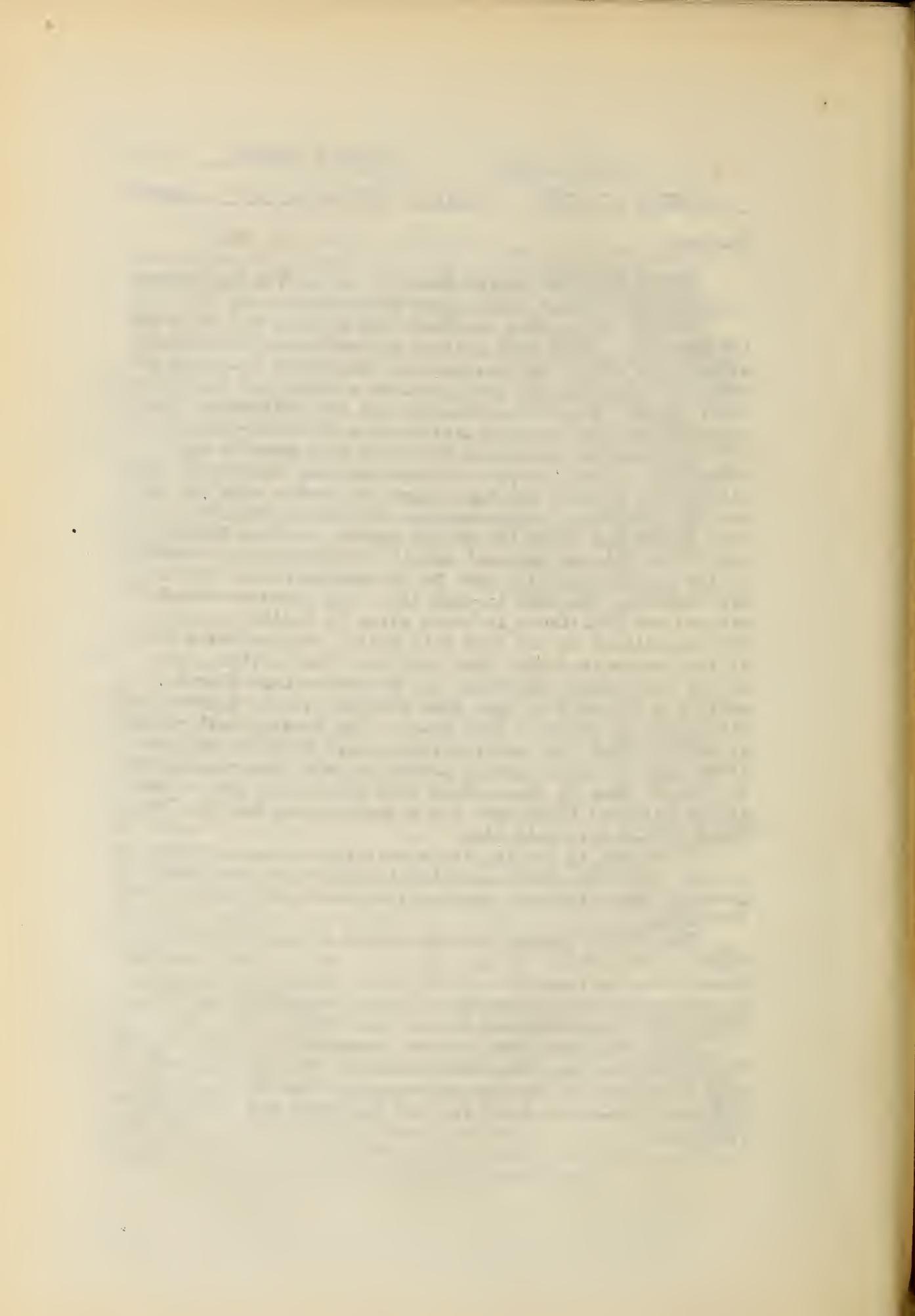
Several calls were received from farmers who filed on the new land. They were advised to handle as little stock as possible until they have gotten their land into good cropping condition and have produced a supply of feed on their farms. There is a tendency for new settlers to buy stock before they are prepared to care for them properly.

Considerable attention was given this week to egg marketing. A new produce firm was recently started in Powell and the grocery men have given the firm a monopoly on the egg business. Unfortunately, this arrangement was made during the slump in the egg market, and the farmers are giving this arrangement credit for the slump. Several of the larger producers came to the agriculturist for help. For those who can ship in case lots, egg cases are being secured and assistance is being given in finding markets. This assistance on one hand gets better returns for a few of the larger producers than they have been getting, and, on the other hand, shows all the producers that they were getting a fairer deal than they thought, as the dealers' profit is not so great as they think. The final result probably will be that the dealer will pay more to those who deliver eggs in cases already packed and with their names on the cases, than to those whose eggs must be handled. This office obtained \$2.40 more for a case for one man than the dealer would have paid him.

A man who is looking for a site for a cheese factory called, but after discussing local conditions and making personal investigation, decided that conditions are unfavorable.

One of the farmers lost four head of yearlings from blackleg this week. On the advice of the agriculturist he inoculated the remainder of his young cattle with aggressin. A syringe was loaned him and he did his own work, as he had been given demonstrations in previous years.

Those who have been shipping cream with the assistance of this office have been well pleased. One man reported that he netted \$3. more on a five gallon can of cream than the local dealer paid him for the can which was sold just previous.



THE DEVELOPMENT OF THE LIVE STOCK INDUSTRYON THE NEWLANDS RECLAMATION PROJECTIN 1919.By L. E. Cline.General Statement.

The year 1919 may be considered one of general agricultural prosperity on the Newlands Reclamation Project. This applies especially to those producing and marketing grain and hay direct. Live stock farming, while profitable in some instances, was not as profitable as the growing of crops. On many occasions, when the prices of grain and alfalfa hay had increased, the price of live stock and live stock products either remained stationary or declined. As, for example, a January, 1919, price of barley was \$2.22 per hundred, alfalfa hay prices were \$14. to \$22. per ton, at the same time hog prices were  $16\frac{1}{2}$  and butter was 64 cents. In April and May hog prices advanced about \$3. per hundred and butterfat prices declined 10 cents per pound, and at the same time barley advanced about 25 cents per hundred and alfalfa hay remained about stationary. In December, 1919, butterfat prices were practically the same as in January of the same year, while alfalfa hay had advanced about \$3. per ton on the project. For the same period hogs had declined to almost the lowest point for the year, while barley prices had increased to \$3.75, the highest price for the year. This lack of proper correlation between the price of feed and the resulting live stock product, has served to discourage, in a measure, the growing and feeding of farm animals. Conditions such as have been cited above have prevailed for the past three years on the project, and have been accompanied by a gradual decreasing of the live stock population on the project, as may be seen from the summary tables accompanying the discussion of each live stock industry.

There was a very material increase in grain production. In a great many cases the grain fields were seeded to alfalfa. The year 1919 showed a very large increase in the alfalfa acreage and a decline in the grain acreage.



## Newlands- Annual Report-(Continued).

The grain acreage in 1918 was 6398 acres and the alfalfa acreage was 25, 67 acres. In 1919 the grain acreage was decreased to 5942 acres and the alfalfa acreage was increased to 28,042. The high prices for alfalfa during the year 1918 gradually stimulated production. The past year was a banner year for marketing alfalfa hay from the Newlands project. There was very little hay fed on the project as compared with previous years, most of the hay being marketed away from the project. The prices were from \$15. to \$17. per ton in the stack. These prices netted the project farmers considerable money, and since the 1919 crop of 93,667 tons was largely a cash crop the past year, money was quite plentiful on the project and financial conditions were good.

Conditions for live stock development have not been so favorable, however. This applies especially to beef animals. Hogs, sheep, poultry and beef animals have all suffered a decline in numbers as may be seen in a discussion under the special topics.

Dairying on the project just about held its own in number of animals with considerable increase in production per animal. Earlier experiences of low priced alfalfa and the lack of market served to place many of the ranchers on their guard, causing them to hold to their dairy herds as a safeguard against the lack of an alfalfa hay market.

Climatic conditions, though not so good as in 1918, were quite favorable.

The period between killing frosts was 113 days, as against 139 days in 1918, and as against an average of 122 days for the past fourteen years. The precipitation was 3.98 inches as against 4.9 in 1918 and 4.87 inches average for the past fourteen years. The project, as a whole, developed materially during the past year. The number of water users increased from 594 in 1918 to 636 in 1919. The acreage cleared and leveled in 1918 of 34,918 acres, was increased to 38,126 acres in 1919.

The Dairy Industry.--Dairying on the Newlands Project during the year 1919 remained practically the same, so far as quantitative production is concerned, as existed in 1918. The census figures show a very slight decrease in the total number of milking cows with a very slight increase in the total number of farmers owning dairy cattle. This would indicate that the size of the herds decreased slightly, and

## Newlands--Annual Report--(Continued).

such was the case, as is shown by the comparative table at the end of this discussion on the dairy industry. The rather high prices that prevailed in this valley for the past three or four years for raw food products have not served to stimulate the production of dairy products or the growing of dairy cattle. It has been observed that very few farmers go into the dairy business except when forced to do so for economical reasons. Dairymen of this class, as a rule, develop very few substantial dairy herds and are usually ready to dispose of their dairy interests as soon as the direct sale of their crops promises returns anywhere near in keeping with the returns received from dairy cattle. It is very unfortunate for the dairy interest in any locality that this condition prevails.

Dairying on the Newlands Project during the years 1914 to 1916 had a phenomenal growth, at which time, although there were 125 homesteaders less on the project, yet 20 per cent more had dairy cattle than now. During the years 1914 to 1916 farm crops were bringing a very low price and the demand, even at the low price, was very limited. Many farmers were literally driven into the dairy business to convert their alfalfa hay into cash. The ranchers considered any cow profitable that would eat alfalfa hay, regardless of how much it took to produce one pound of butter. The value of alfalfa hay at that time was from \$4. to \$5. per ton, and butterfat was from 22 cents to 28 cents per pound. The price of alfalfa hay now, as compared with the previous date, has increased about 250 per cent, while the price of butterfat, which averaged 65 $\frac{1}{2}$  cents per pound for 1919, shows an increase in price over the earlier period of 150 per cent. It is safe to say that had it not been for the rapid advance that took place in the quality of the dairy animals during the interval, there would be little encouragement for present and prospective dairymen on the project. The sentiment, however, at the close of 1919, in the face of existing conditions, is quite encouraging. As an index to the sentiment toward better dairying, may be mentioned the importation of a number of good, registered dairy bulls onto the project last year and the sale of several young bulls on the project from registered project herds.

The efforts put forth by this office in 1914 and 1915 toward encouraging the importation of high class dairy bulls is at the present time bearing good fruit in the very large number of very excellent dairy heifers that are in evidence. These promising young dairy heifers will no doubt stimulate dairy interest in a way that no other one agency could.

## Newlands--Annual Report (Continued.)

Most of the farmers that are now in the dairy business are those that are left from the large number that entered it in 1914 and may be expected to continue through good and bad conditions, with the one end in view of developing a good efficient herd by breeding and selecting. A comparative numerical statement is here given, showing the status of dairy cattle on the project from 1915 to 1919, inclusive:

	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>
Total number of white settlers...	502	516	554	594	632
Total number of dairy cattle.....	2579	2537	2020	1895	1850
Total number of farmers having dairy cattle.....	413	315	364	381	397
Per cent of farmers having dairy cattle.....	82.2	67.8	65.7	64.1	62.8
Number of farmers having only one cow.....	67	90	103	92	109
Per cent of farmers having only one dairy cow.....	13.3	17.3	18.5	15.4	17.2
Per cent of farmers having 2 to 9 cows.....	51.9	33.9	33.5	38.2	37.6
Per cent of farmers having 10 to 20 dairy cows.....	10.3	11.6	9.5	8.5	6.17
Per cent of farmers having 21 to 30 dairy cows.....	4.9	2.5	2.8	1.1	1.25
Per cent of farmers having over 30 dairy cows.....	1.5	2.5	1.08	.6	.47

Until the past two years the Jersey breed had the largest number of pure bred animals, but at the present time the Holstein breed has the largest number of pure bred animals, the Jerseys coming second and the Guernseys third. Almost every herd of dairy cattle is headed by a registered bull of the breed predominating in the herd. This has prevailed almost from the beginning.

The number of pure bred females has increased somewhat rapidly. The local feeding practices, however, do not always serve to enable the owner to distinguish between extra high

Newlands--Annual Report (Continued).

producing ability and very good average production, due to the fact that straight alfalfa hay ration being fed makes possible only a moderate production, such as cows with fair breeding are able to produce. In only a few cases is alfalfa hay being supplemented.

The sentiment toward herd improvement is very encouraging and the increase in efficiency in herd management shows that the dairymen are working along the lines that will eventually put the local dairy business on a substantial basis. There is a good sentiment toward herd testing, though no testing association is in operation at the present time, all testing work being done through this office. Quite a number of herds are tested regularly every month, a record being kept by this office and a summary report being submitted at the end of each year. To facilitate this work sample bottles are supplied to the dairymen at each testing period, the dairymen taking the samples and weighing the milk and returning the same to this office.

The subject of cooperative bull associations has been presented to the dairymen a number of times, but so far there has been little favorable sentiment toward this feature of the industry. Most of the dairymen who are in the business in earnest have preferred to secure a good bull for their own herd rather than be subjected to the inconvenience of securing service from a community bull. The general prevalence of contagious abortion in the valley has also been a factor in discouraging a community bull. Under the existing conditions, and with the willingness of each dairyman to supply a good bull for his own use, this office has not urged the formation of bull associations.

Dairy feeding practices on the project are, with few exceptions, the same as prevailed from the beginning. Alfalfa hay without limit is the general practice. The third, first and second crops of alfalfa hay are preferred in the order mentioned. The best dairymen practice feeding their cattle at least three times a day. By this practice they feed that the cattle are encouraged to eat more and will clean up the hay better with less trouble from digestive troubles. Five dairymen on the project are equipped with silos and there is an excellent prospect for several additional silos in 1920. In a few instances grain is fed to heavy producers, but grain at \$60. to \$90. per ton is considered quite prohibitive. The cost of producing dairy products on a straight alfalfa hay ration is very important to this locality. Considerable cooperative experimental work has been carried on here in previous years on this subject. The work, however, has been conducted on an individual cow basis, and only during the

## Newlands--Annual Report (Continued).

animal's period of lactation. During the year 1919 a feeding experiment was begun in order to determine the cost of producing dairy products based on an entire milking herd and covering the period of one year and including the dry period as well as the lactation period of each animal in the herd. The results of this cooperative experiment will give some idea of the feed cost of producing milk and butterfat for a good average Jersey herd for the period of one year.

The dairy equipment of the project, which amounted to almost nothing in 1914, now consists of fairly good housing accommodations. On a number of farms good, substantial cow barns have been erected. When it is considered that under our local climatic conditions cow barns are not absolutely essential, but add to the convenience of herd management, such increased dairy equipment is quite encouraging.

The subject of diseases and minor ailments of dairy animals has received considerable attention from this office as well as from the Live Stock Disease Control Board of the State. Much time has been devoted to the instruction of dairymen in the care and treatment of what might be considered minor ailments of dairy animals. Now that more private practitioners have entered the local field, it is expected that this work can be considerably curtailed. A very large per cent of the cattle on the project must be immunized twice each year against blackleg and anthrax in order to insure their safety. This work is performed by the Live Stock Disease Control Board, but application is made entirely through this office and likewise final arrangements for the work. Tuberculosis eradication work by the state and federal governments cooperating has been carried on to a limited extent up to the present time, and very few reacting animals have been found. It is expected that a systematic tuberculin test of all dairy animals in the project will be made during the coming year. The sentiment for this tuberculin test is almost unanimous. In previous years much work has been done in tuberculosis eradication by this office and by state officials, resulting in a very low per cent of reacting animals, as is indicated by the test recently made.

Contagious abortion, which has been quite annoying to dairymen on the project in previous years, is still in evidence, though to a much less extent than at any previous time in the history of dairying on the project. Much time has been devoted to instructing dairymen in care of their cattle in connection with contagious abortion and its attendant evils.

## Newlands--Annual Report (Continued).

Sterility, resulting from abortion, is a subject that has required considerable time and attention, but upon which quite encouraging results have been secured. In a large number of instances, operations have been performed by the writer for the purpose of remedying cases of sterility. The results secured have been very gratifying, and a large number of valuable animals have been brought back into production which were considered of no further value for dairy production. This work devolved on this office because there was no relief from other local sources.

Dairying on the Newlands Project may be considered in a good, healthy, growing condition. A strong sentiment for better cattle prevails throughout the project and the large number of high class bulls that are everywhere in evidence are rapidly improving the general quality of the dairy herds. The marketing facilities, while not all that could be desired, are not discouraging. The local creamery did not operate during the past year, but there was strong competition for all available cream, three firms competing for the product. The average price for the year was about 66 cents per pound at Fallon. Dairy cattle at the present time are much in demand in spite of the fact that alfalfa hay is bringing the highest price that has prevailed for the past five years. Under existing conditions it is not expected that any rapid increase in dairying will take place, but the steady profitable income from efficient cows is appealing more and more to the alfalfa farmer. It is believed that the greatest inducement for dairying on the project lies in the well bred heifers that are growing up, as there is nothing that will stimulate care and attention on the part of owners more than ability to produce on the part of the animal.

The Swine Industry.--The growing of swine on the Newlands Project attracted less interest the past year than at any time since 1914. Although prices were quite high, the margin of profit was so questionable, due to the high grain prices, that it seemed unwise to encourage an increase in swine production. The tendency among the farmers was to eliminate swine growing from their program as much as possible. During the year there were only seven carloads of hogs shipped out of the project. Six of these were shipped cooperatively. There was a period of two or three weeks during the past year when hog feeding could have been carried on at a profit. This was during the harvesting time when grain locally was at its lowest price, which was \$60. a ton on the farm, and at the same time hogs were 18 cents locally. At this time there were

## Newlands--Annual Report (Continued).

practically no hogs on feed and very few ready to be fed. The prices above mentioned soon changed and when the project hogs were ready to go on feed, grain prices were near \$80. per ton and pork prices were \$12. per hundred at Fallon for prime hogs. In the case of two carloads of hogs that were fattened in December a net loss was sustained by the owners in the fattening process of from 3 cents to 4 cents per pound. Until conditions change materially there will be no increase in the number of hogs grown on the project. As long as the present conditions of grain shortage with high prices exist, the writer does not feel justified in devoting much effort to encouraging swine production.

With the exception of two or three large ranches on which considerable grain is grown and hogs are utilized to graze the stubble land, most ranchers raise pork for their own use, and on farms where dairying is practiced a few extra hogs are kept to utilize the skim milk.

The general health of the swine on the project for the last four years has been excellent. There are not sufficient hogs in the project to facilitate the spread of any of the swine diseases. Cholera has appeared on the project but twice in the last five years.

From present indications the swine population for the coming year will not be increased, and there are prospects of a decrease. Conditions are quite favorable locally for swine growing when grain prices are sufficiently low for fattening purposes. Alfalfa pasture is always accessible and skim milk is quite plentiful on many farms, but alfalfa hay at \$15. to \$20. per ton does not make swine growing attractive with hog prices at 12 cents per pound such as they have been the latter part of the past year.

The breeds of swine represented on the project are Duroc-Jerseys, Berkshires, Poland China, Yorkshires and O.I.C's. The hogs on the project are mostly well bred and in most cases the hogs on every ranch are of one distinct breed and good individuals. If conditions ever become favorable for swine growing on the project there are sufficient good representatives of the various breeds to soon stock the project with excellent herds. There are a large per cent of the hogs on the project that can be registered, but the unprofitableness of the industry has been a discouraging factor in the keeping up of registration records of pure bred animals.

## Newlands--Annual Report (Continued).

The following comparative table shows quite clearly the status of the hog industry for the Newlands Project since 1915:

	1915	1916	1917	1918	1919
Total number of white settlers	502	516	554	594	623
Total number of hogs.....	4515	6092	3117	3343	3048
Total number white settlers owning hogs.....	268	270	287	315	323
Per cent white settlers owning hogs.....	53.5	52.5	51.8	53	51.1
Per cent white settlers owning less than 10 hogs.	52.	56.	38.9	39.	38.6
Per cent white settlers owning 10 to 20 hogs....	28.2	21.4	8.3	8.9	8.3
Per cent white settlers owning 21 to 30 hogs....	8.17	8.48	1.4	2.1	1.5
Per cent white settlers owning more than 30 hogs...	11.5	12.54	3.06	2.3	2.5

The Sheep Industry.--The sheep industry on the Newlands Project for 1919 has remained practically the same as for the two preceding years. The Reclamation census report for 1919 shows 3347 sheep, and 15.9 per cent of the project farmers are reported as having sheep. This is an increase of 1.8 per cent over the previous year. This increase in number of farmers owning sheep was among those having from ten to twenty sheep, while the census shows that the flocks of other sizes suffered a decrease in numbers.

The lack of interest shown in the sheep industry by the project farmers may be largely attributed to the rather poor facilities on an alfalfa ranch for handling sheep. Very few ranchers on the project have any pasture facilities and if sheep are kept they must be confined to small corrals and fed alfalfa hay throughout the year. This practice is expensive and quite burdensome, and is not conducive to the handling of large flocks.

A number of ranchers have entered upon the sheep business with small flocks as an experiment and have found that the total net income was not sufficient to warrant the constant

## Newlands--Annual Report (Continued).

care and attention required for sheep kept in corrals. Sheep are quite subject to bloat and must be constantly watched when fed a straight alfalfa ration under our local conditions.

Sheep on the project are very largely grade Merinos crossed on Hampshire or Shropshire bucks. In most all breeding herds pure bred Hampshire or Shropshire bucks are used.

During the present winter there have been very few bands of sheep brought onto the project for feeding purposes as has been the case in former years.

The sheep on the project have been quite free from diseases or parasites. This may be largely due to the small flocks in which they are handled. There were a few cases of sheep scab that required attention.

The lack of any considerable increase in the number of sheep on the project may be attributed to the general disinclination on the part of the rancher to feed and grow animals when the net returns are not certain to be more than the market value of the feed consumed.

The activities of this office with regard to the sheep industry have consisted largely in giving advice in care and handling of flocks and in a number of cases of selecting herds or parts of herds. The general subject of herd management of sheep has received considerable attention.

The following statement shows the status of the sheep industry on the project during the years 1915 to 1919, incl:

	1915	1916	1917	1918	1919
Number of sheep on the project	4710	5452	3346	3560	3347
Per cent white settlers having sheep.....	15.	12.4	16.2	14.1	15.9

The following table shows the way in which the sheep are distributed among the farmers:

	1917	1918	1919
Percent of farmers having less than 10	8.1	7.7	7.1
Per cent of farmers having 10 to 20	2.2	1.8	3.6
Per cent of farmers having 21 to 30	2.02	.5	.03
Percent of farmers having 31 to 50	1.8	.1	.063
Per cent of farmers having over 50	2.3	3.0	2.3

## Newlands--Annual Report (Continued).

The Poultry Industry.--The poultry industry on the Newlands Project during 1919 suffered a decline as compared with the previous four years. The tendency toward retranchment in the production of cattle, sheep and hogs has also effected a curtailment in the poultry industry. The production of poultry and poultry products is dependent largely upon the supply of grain and the prices for the same. War conditions have increased the prices of grain for human consumption to such an extent that the prices obtainable make its use as a poultry food prohibitive. When plant products are converted into animal food products the transformation represents such a loss in human food as compared with the original quantity that is consumed that times of scarcity and high prices will not permit of maintenance of animal life and increase in numbers. During the war grains were not always available for poultry feeding at any price. This greatly discouraged production and caused a decrease in number of fowls present on the ranches during the past year. Poultry and eggs have commanded prices that seemed almost prohibitive to the consumer, yet these products were invariably produced with a very small margin of profit or perhaps at a loss to the producer. Hence the curtailment in production as shown by the Reclamation census for the year 1919. Only a few favorably situated ranchers on the project maintained large flocks of chickens or grew any considerable number of turkeys, whereas in more normal conditions, these industries are quite generally patronized. The Reclamation census for 1919 shows 25932 chickens and 3443 turkeys. These figures were secured prior to the heavy marketing of poultry which takes place during the holidays.

Climatic conditions on the project are very favorable to poultry production, and there are very few of the poultry diseases prevalent on the project to discourage poultry growers. As soon as grain prices become more reasonable there is little doubt but that poultry growing will make very rapid strides on the project.

General Summary and Future Outlook.--Demonstration work on the Newlands project has experienced a good, healthy growth during the past year. While the number of calls for assistance, as shown in the summary table is slightly less than for the previous year, the requests have not been so miscellaneous, thus enabling more time to be devoted to purely live stock matters.

The establishment by the State Extension Division of a county agent in Churchill County has relieved this office of a great deal of miscellaneous work. During the past year the marketing of alfalfa hay and work in connection with supplying farm labor as well as other matters not pertaining

## Newlands--Annual Report (Continued).

directly to live stock interests has been taken over by the county agent.

Much of the demonstration work performed heretofore has enabled many of the live stock owners, who endeavored to profit by instructions, to get along with very much less help than they previously demanded. It has been the policy of this office to make demonstration work on a ranch with reference to certain points sufficiently helpful, so that a repetition of the work would not be necessary. An effort has been made to make this clear in each instance, and it is believed that a great many of the ranchers have been rendered more self-reliant, and has given them sufficient information to enable them to care for their stock.

While the past year has not been one of great increase in volume of live stock business on the project, the quality of stock kept has been very much improved over what has existed in previous years. High prices of feed and labor have been a very potent factor in eliminating all but the most profitable individuals in the different branches of live stock industries. In this connection the subject of herd testing of dairy cattle has recently received considerable attention. Several herds have been regularly tested every month and the animals culled out on the basis of the test. In other instances herds have been culled out on the basis of a few tests.

Although the past year has been very trying on all phases of live stock industry, it has been very gratifying to note that no dairy herd of as many as ten cows has actually been dispersed, and many small herds have originated in the face of increasing hay prices. The constant elimination of unprofitable dairy animals has made dairying attractive under even such unfavorable circumstances as have prevailed in the past year.

The past year has been one of very small loss of all classes of live stock on the project. The constant vigilance on the part of this office, and the excellent cooperation of the State Live Stock Disease Control Board in the vaccination against blackleg and anthrax, have reduced the loss below what it has been in any previous year.

There has been much time devoted to the general subject of herd management. The selection of herd sires has demanded much time. The experience of the past year has been gratifying in that it has demonstrated that much educational work with a large number of ranchers does not require repetition, but that the information becomes their own and more time may be devoted to beginners. This has been the aim of this office from the beginning.

## Newlands--Annual Report (Continued).

The subject of diseases and minor ailments of animals has received considerable attention during the year, but less time was devoted to this phase of the work than previously, and it seems very hopeful that much more of this work may be eliminated the coming year, as a well qualified veterinarian that has state recognition has come to the project. With the gradual elimination of work of a veterinary nature more time will be devoted to live stock development.

With the present prospect for higher prices for grain and hay and live stock products, the outlook for increased interest in the general live stock industries during the coming year is not very hopeful. The margin of profit the past year has been small enough and the further reduction of profit will mean a further elimination of live stock, and a greater proportion of the ranchers' energies devoted to the production and sale of farm crops.

It is the purpose of this office to endeavor so far as possible to increase the efficiency of the herds on the ranches to such a point that increased prices for farm products will not cause their elimination but that on the other hand they may be held as a nucleus for greater herds when more nearly normal conditions prevail.

Of all the live stock industries on the project dairying has been least affected by high feed prices of any, which fact may be taken as an index of the quality of the dairy animals on the project. This fact also goes to prove that in competition with other live stock industries dairying is least affected by adverse conditions.

The cooperative feature of the work of the agriculturist consisted of the establishment of a cooperative sales day, cooperative marketing of live stock, and a cooperative experiment in the feeding of dairy cattle. The establishment of a cooperative sales day has met with hearty response. It was planned to hold a sale every three months. The first sale was held in September. A second sale was held in January of 1920. Both sales were quite successful. While the establishment of these sales may be considered a departure from live stock development work, it requires a very little extra time, and will be taken over by the farmers themselves eventually. Live stock sales are included in these community sales.

Cooperative marketing of hogs has required some time, though not so much as the year previous. Practically all

## Newlands--Annual Report (Continued).

the hogs marketed off the project have been sent out in cooperative shipments. The shipments, however, were less than for any previous year since the establishment of this office.

A cooperative feeding experiment with dairy cattle was started the latter part of the year to continue through the period of one year. Twenty-four head of Jersey cows are included in the experiment. It is expected that results of the experiment will give a fair idea of the amount of alfalfa hay required to produce a pound of butterfat or one hundred pounds of milk, calculated on a herd basis and including the dry period as well as the milking period of the cows.

Considerable time was devoted to interesting farmers in silo construction during the past year, but only one new silo was erected. All the silos on the project, however, were filled. There is considerable interest at the present time in silos and it is expected that several new ones will be erected during the coming year by dairymen, who have been considering the matter for two or three years. Some form of built-up silo, either concrete or some modification of the Gurler silo, will probably be used, as stave silos are very poorly adapted to our climatic conditions.

The community pasture which has caused considerable controversy, and with which this office had considerable connection, will be operated the coming year in the same manner as for the year just passed. This is the plan that has been championed by this office and which gives assurance of being most satisfactory under local conditions. More effort will be put forth to develop the pasture and facilities will be added for handling the stock. The charges last year were \$6.00 per head for mature animals for the season and half price for cattle under one year of age. These prices will no doubt prevail the coming year.

A numerical statement of the activities of this office during the year 1919 are summarized in the following tables:

Calls for assistance:	
By telephone.....	830
Office visits.....	670
Visits to farms....	<u>450</u>
Total.....	1950

## Newlands--Annual Report (Continued).

This assistance was devided among the following:

Tuberculin testing.....	43	Marketing hogs.....	135
Hog management.....	67	Pastures.....	58
Bloat.....	9	Marketing cattle.....	1
Abortion.....	38	Poultry management.....	8
Buying sheep.....	1	Selling bulls.....	1
Cream testing.....	40	Sterility.....	70
Difficult calving.....	28	Udder trouble.....	76
Dehorning.....	2	Retained placenta.....	66
Dipping sheep.....	3	Silos and silage.....	24
Hog feeding.....	3	Marketing cattle.....	44
Lameness.....	40	Milk fever.....	13
New importation.....	8	Labor employment.....	8
Marketing wool.....	3	Separator trouble.....	2
Sheep management.....	34	Animal castration.....	4
Sheep scab.....	1	Cattle feeding.....	12
Anthrax vaccination.....	51	Calf feeding.....	14
Buying cattle.....	39	Throat trouble.....	10
Indigestion.....	15	Cooperative sales.....	22
Anemia.....	25	Lump jaw.....	8
Buying bulls.....	59	Distemper.....	41
Distemper.....	10	Destroying lice	0
Blackleg.....	62	Forage poisoning.....	2
Marketing hax.....	16	Pink eye.....	2
Herd testing.....	151	Vaginitis.....	2
Impaction.....	209	Paralysis.....	3
Herd management.....	316		



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

APR 10 1920

THE LIVELY YOUNG

THE LIVELY YOUNG

THE LIVELY YOUNG

100

THE LIVELY YOUNG

THE LIVELY YOUNG

THE LIVELY YOUNG

101

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE

And

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XXVII.

April 10, 1920.

No. 15

WESTERN IRRIGATION AGRICULTURE

Field Notes.

San Antonio.

During the week ending April 3, the following meteorological data were recorded: maximum temperature 87, minimum 40, greatest daily range 47, and precipitation .04 inch. The unseasonably cold nights, together with the continued drought, have retarded the growth of all crops.

The low ground south of orchard on A3 was graded to prevent standing water during rainy weather. Orchards on B3, E3 and E4 were cultivated. Hauling manure from the corral to the compost pile was begun.

Hand labor was employed in general cleaning of grounds and buildings; repair of harness; weeding orchards A1, A3, B3 and E3, and weeding along farm fences.

Miscellaneous.

Mr. Yuen-ting Yeh, representing the Chinese Cotton Mill Owners Association, of Shanghai, China, arrived at the Farm, April 3, and will spend two months studying cotton culture in this vicinity.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Huntley.

Field Notes.

During the week ending April 3, fourteen visits to farms were made. There were 10 conferences, and 26 requests for assistance were received.

On March 16 a sale of dairy cows was attended. Six of the best grade Holstein cows brought average of \$175, the highest bringing a little more than \$180. Most of the best cows of the herd went to dairy farms near Billings, Mont., but the heifers and calves, which in time should make better milkers than the mothers, remained on the project.

Huntley (Continued).

The owners of all herds being tested regularly were visited and 51 samples of milk and 3 of cream were tested. Mr. Cooley was on the project two days during the week.

Minidoka.

During the week ending March 27, twenty-eight farm visits were made, one meeting attended with 35 people present and 75 office calls were received.

One day was spent conducting Mr. Cooley over the project and making plans for future work. One day was spent in attending the district wool pool meeting at Jerome, Idaho. The following news article gives the present status of the wool pool situation:

"Following the success of the Minidoka County wool pool in 1919, a number have decided that they will pool their wool again this year. Considerable work has been done in forming a district wool pool. Nine of the southern central Idaho counties plan pooling in one big pool. The counties to be represented are Twin Falls, Jerome, Lincoln, Gooding, Camas, Blaine, Power, Cassia and Minidoka.

On March 25 a meeting was held at Jerome for the purpose of organizing the Southern Central Idaho Wool Growers' Association. Seven counties were represented. Tentative plans were drawn up at this meeting which will be ratified on April 1, following the meetings which were held in each county before April 1.

Twenty-five Minidoka County wool growers met at the county Court House on Tuesday night and adopted a constitution and by-laws for this year. Mr. C. S. Phillips was elected president and general manager, with Walter Marsh as vice-president, and R. M. Newman as secretary and treasurer. The president will attend the meeting at Jerome on April 1 to represent Minidoka County.

Mr. E. F. Rinehart reviewed some of the main factors which enter into a successful wool pool organization and also gave a few brief statements regarding the prospective price of wool this year. The Arizona wools have been moving rather slowly, but one exceptionally good clip sold at 73 cents. According to the Breeders' Gazette of March 25, wool is ranging from 35 cents to \$1. per pound.

## Minidoka (Continued).

At the meeting to be held at Jerome on April 1st, details of the wool pool will be worked out. It is planned to have one general manager who is capable of grading the wool and all wools will be graded the same in each county. If the organization is completed at the April 1st meeting, there will be approximately 15 cars of wool assembled which will, naturally, induce larger buyers into this section, thereby giving the farmers the best opportunity to receive a good price for their wool."

Mr. E. F. Rinehart was present at the weighing of the Shorthorn calves and felt that they were bought right and that the members of the club had a good opportunity of winning state championship at the fall fair. The following are the weights of the calves, which show them to be a rather uniform lot, suitable for the kind of competition which will be a part of the calf club:

	515	pounds
	535	"
	562	"
	480	"
	530	"
	500	"
	490	"
	515	"
	620	"
	730	"
	565	"
	545	"
Total	6587	"
Average wt.	549	"

The following work has been outlined for the next three months:

1. Organization and completion of the wool pool.
2. The semi-annual meeting of the Project Short-horn Breeders' Association, together with perhaps a general live stock day to be held at Rupert.
3. The selection and outlining of feeding and care for the calf club with Shorthorn and dairy.
4. Spending at least two weeks in the proper development of silo work already started.
5. Securing enrollment of the various breeders of pure bred stock who desire to become a part of the pure bred sire campaign as outlined by the Bureau of Animal Industry.

## Minidoka (Continued).

6. Taking an inventory and signing up at least three men who will keep a cost of production record for mutton and wool.
7. The same sort of record of production for steer feeding.

## Newlands.

During the week ending March 20 visits were made to five farms and twenty requests for assistance were received. Arrangements were made for two parties to have their herds vaccinated against blackleg. Assistance was rendered in one case of abortion. This particular case might be of interest in that it is very typical of many abortion cases that are sometimes puzzling to the owners. The cow began to labor early in the morning and the foetus showed signs of life. After an hour's rather indifferent labor on the part of the cow all effort ceased and she seemed to show no further signs of parturition. After about five hours, the cow was examined and it was found that the foetus was dead. The animal was left with the hope that the dead foetus would be expelled during the night. The following day the cow was quite sick and the placenta retained. After thirty-six hours, however, the placenta was expelled and the cow recovered considerably. It is common belief among many dairymen that unless the calf is born prematurely there is no reason to suspect abortion. However, the incident just related has been a very common experience on the project. Suspended labor is invariably accompanied by death of the foetus. If time is given, however, the foetus will be expelled without interference, which is much the better way. Interference at calving time is likely to be accompanied by complications due to infection even with the greatest precaution.

During the entire week ending March 27, very unpleasant weather prevailed. A storm amounting to .75 inch and consisting of rain, hail and snow extended through the greater part of the week. The roads were next to impassable for automobiles.

One case of udder trouble was visited, which might be of interest, because of its rather frequent occurrence among dairy cattle. The cow in question was dried off from previous lactation with udder in normal condition. Upon freshening again only three teats functioned. The other teat was reported as normal but no milk came down from the quarter above. Upon examination it was observed that a stricture had formed at the base of the teat, shutting off the milk from entering the teat. The affected quarter was distended with milk. With the use of a

## Newlands (Continued).

stricture cutting instrument passed up through the teat, an opening was soon made which allowed the milk to enter the teat. When such a stricture has not grown too thick it is an easy matter to break it down, and permanent results are quite certain. In cases where the stricture has grown quite thick, the tendency for the scar tissue to grow and obliterate the opening made is very great. Practically all such cases that have come to attention have not been permanently relieved. In cases where thin membranes have formed, the treatment is easily performed and very effective.

One case of sterility in dairy cattle was treated as a demonstration. The method of treatment used in these cases of sterility is practically the same as that recommended by Dr. Williams, of Cornell, and is practiced quite generally among dairy herds at the present time.

There were twenty-six calls for assistance during the week and visits were made to four farms.

## Shoshone.

During the week ending March 27, twenty-two office calls were received and nine other conferences were held.

Considerable attention was given to marketing eggs. Egg cases were obtained and a market for eggs located for several farmers. The eggs which these farmers have not been able to sell to special customers have been shipped onto the general market, at a net profit of from one to two dollars per case.

One of the local veterinarians who is also state deputy veterinarian considers the death of several cattle here this week as being due to hemorrhagic septicemia. He has obtained a supply of serum and he and the agriculturist are prepared to inoculate if there appears to be any danger of an epidemic.

During the week ending April 3, one farm visit was made, 25 office calls were received and 7 other conferences were held. Three milk samples were tested.

One of the local butchers is feeding about 150 cattle on alfalfa hay, shelled corn and dried beet pulp and running hogs with them. He says that the cattle and hogs are making profitable gains. However, no accurate account is kept because he is constantly buying and killing. He is planning to build a silo next year and fill it with sunflowers. The tongue-lock silo is being considered.

The local dairymen who retailed milk in Powell have arranged to deliver their milk to the produce company which has leased the buildings formerly belonging to the Powell cooperative creamery. This company will do the bottling and delivering.

## Shoshone (Continued).

Considerable attention was given this week to marketing the eggs of those who produce enough to fill their own cases. As the farmers hear of the profits being obtained by those who have been shipping their eggs direct to consumers, retailers or wholesalers, the practice is increasing.

One of the dairymen who has a herd of registered Holsteins has bought a modern butter-making outfit and is making excellent butter. He delivers it for five cents per pound less than the price of creamery butter at the retail stores and finds it quite profitable.

## Yakima.

Twenty farm visits were made, four office calls received and two conferences held during the week ending March 13th. Mr. Hubbard, extension animal husbandman, from the State College, at Pullman, spent some time here in visiting the cattle feeders of the valley who have been feeding cattle for the market. These men were visited for the purpose of securing data relative to the costs involved in feeding and the profits made this past winter. The three days spent with the cattle men revealed the fact that a large percentage of the cattle shipped into the Yakima Valley last fall were only being fed a maintenance ration with the expectation of returning them to the range this spring. Approximately 20,000 head were shipped in, of which 15,000 in all probability will be returned to the range in this state and Idaho and Montana, leaving only about 5,000 for slaughter.

The results of the feeding operations do not appear to be a very profitable venture. The market was high for stockers last fall and low for finished cattle this spring, with alfalfa at from \$20. to \$22. per ton, in the stack, and feeds accordingly high. The feeders are rather pessimistic regarding their outcome. In some cases the feeder was only offered the same price for his finished product as he had paid for the cattle as feeders, leaving him only the increase in gains for profit without any increase in market value.

Twenty-one farmers were visited and eight office calls were received during the week ending March 20.

Two days were spent in the vicinity of Harwood and Wiley City in the interests of the creamery at that place, and three days were spent in the vicinity of Cowichee and Tieton visiting the farmers and dairymen who are interested in securing dairy cows for their farms this spring.

A number of farmers were found who were interested in seeding field peas for hog pasture.

LIVE STOCK DEVELOPMENT ON THE YAKIMARECLAMATION PROJECT IN 1919.

By John E. Watt.

General Statement.--The year 1919 was unquestionably the most prosperous year for the farmer in the history of the agricultural development of the Yakima Valley.

The past three years have been times of good crops, high yields and, in most cases, the farmer has received good prices for all classes of farm commodities. Those in a position to know the financial conditions of the majority of individual farmers state that farmers have this year practically freed themselves from any burden of debt. The evidence of prosperity is shown by the number of substantial improvements in the way of houses and other farm buildings and equipment making their appearance this past season. The early and unexpected freeze in October did considerable damage to the ungathered portion of the apple crop. Silage corn was badly frozen which delayed silo filling considerably and caused a great deal of soft corn. The farmers on the Tieton unit, however, suffered less than those living in the lower portions of the Valley.

The unusually high prices paid to fruit growers of the valley has had a tendency to cause a decided increase in farm values. Many farmers have come in from the central states, where inflated values in lands preceded similar conditions in this locality, and purchased local farms at considerably over normal local prices. This has had a tendency to cause considerable speculation in land. The increase in price of land on the Tieton Unit especially suitable for fruit growing has caused a number of farmers interested particularly in stock raising to dispose of their land and buy in other parts of the valley where farms may be had which are not so high in price but are better adapted to live stock farming. The fact that the farmers have sold their land and remained in the valley, buying farms that are better suited for their particular type of farming, indicates their confidence in the future prosperity and development of the Yakima Valley.

The following figures will, in general, show the trend of agricultural development of the Tieton Unit of the Yakima Reclamation Project by years.

## Yakima--Annual Report (Continued).

Total value of live stock (not including horses and mules) and farm crops on the Tieton Unit:

1915.....	\$ 888,302.95
1916.....	1,263,702.96
1917.....	2,484,215.96
1918.....	2,765,627.48
1919.....	4,300,291.97.

Table II shows a decrease in the cattle, sheep and swine population for 1919, with a decrease in total value, but at the same time there is an increase in the value of the individual animal except in the case of the sheep. The decrease in the cattle and swine is principally in numbers.

The cause of this decrease in number of live stock is attributed to the increasing and continued high price of feed, and to the shortage of labor. There seems to be a tendency to turn hay and grain into a cash crop, as far as possible. The increase in value of the individual animal seemed to increase this tendency, as labor was scarce, high-priced, and generally inefficient, and there was a ready sale for all marketable live stock. The fluctuation of the hog market during the summer and fall of 1919 no doubt had a tendency to reduce the swine population. This conclusion is drawn from observations and farm visits made during the season.

The losses of live stock on this project due to contagious or infectious diseases have been comparatively light. Most of the cattle owners vaccinate for blackleg and have reduced the losses from this source to a minimum. Two herds were visited in which hog cholera was suspected, but the trouble proved to be from other sources than infectious troubles. Practically all the dairy stock have been tuberculin tested by state or local authorities. The results of these tests show a very small per cent of reactors. Probably the greatest preventable loss of live stock on the project is caused by mineral poisoning. These losses are due to growing hogs in orchards which have been sprayed several times during the season for fruit insects. The greatest losses reported from this source are from the stock fed on hay on farms where hay is grown in the orchards. The extent of these losses has not been determined, but no doubt it is quite considerable. The three following tables give some interesting data relative to the agricultural development of the Tieton Unit:

## Yakima--Annual Report (Continued).

Table II. -- Crops Reported, 1915 to 1919, inclusive.  
(U. S. R. S. Survey).

	1915	1916	1917	1918	1919
Total acres cropped...	\$ 18,100	\$ 21,000	\$ 24,425	\$ 25,845	\$ 26,300
Total value all crops.	668,650	1,102,536	2,303,195	2,516,250.92	4,053,168.07
Average value all crops per acre.....	37	53	94.30	97.36	154.10
Tons alfalfa.....	23,300	27,223	32,244	20,862	27,561
Barley, bushels.....	26,000	27,300	16,512	21,500	20,340
Corn, bushels.....	43,280	54,560	22,468	31,247	43,959
Corn silage, tons.....			1,948	3,112	2,749

Table II.--Status of Live Stock Industry by Years,  
(U. S. R. S. Survey).

	1913	1914	1915	1916	1917	1918	1919
Cattle:							
Total number	777	1425	2312	4691	3068	2819	2521
Average value	\$69.	\$62.	\$56.	\$27.	\$47.95	\$56.50	\$67.80
Swine:							
Total number	2963	4990	5473	3317	3255	4975	3915
Average value	\$ 9.	\$7.20	\$5.90	\$9.60	\$15.20	\$15.20	\$17.20
Sheep:							
Total number	107	71	241	626	559	1168	774
Average value	\$4.75	\$3.90	\$5.25	\$4.20	\$14.	\$12.40	\$11.45

Value of all live stock.

1913.....	\$131,105.
1914.....	124,554.90
1915.....	219,652.95
1916.....	161,166.96
1917.....	181,020.56
1918.....	249,376.70
1919.....	247,123.90

Yakima--Annual Report (Continued).

Table III.--Average Yields and Farm Values of the Principal Farm Crops of the Tieton Unit for 1918 and 1919.

CROPS	ACRES		Unit of Yield	Yield.				Farm Value.				
				Total		Av. per Acre.		Per Unit of Yield.		Per acre.		
	1918	1919		1918	1919	1918	1919	1918	1919	1918	1919	
Alfalfa												
hay	12218	14130	Ton	40863	47561	3.3	3.4	20.00	22.50	66.90	75.75	
Barley	886	727	Bu.	21500	20340	24.3	28.0	1.25	1.40	30.33	39.15	
Hay other than Alfalfa												
Corn	227	405	Ton	406	608	1.5	1.5	20.00	22.00	29.30	33.00	
Corn	728	1230	Bu.	31274	43959	43	35.7	1.40	1.60	60.15	57.20	
Oats	306	346	Bu.	10624	11117	34.8	32.1	.80	1.00	27.75	32.15	
Potatoes	1060	830	Bu.	195866	1177700	184	142	.80	1.20	147.80	170.15	
Wheat	4681	3230	Bu.	99490	79533	21.2	24.6	2.00	2.15	42.50	59.95	
Sugar Beets	235	320	Ton	2250	2184	9.6	6.8	10.00	10.00	95.75	68.25	
Pasture	1082	1190	Acre		1190			25.00	25.00	25.00	25.00	

## Yakima--Annual Report (Continued).

The Dairy Industry.--There has been considerable decline in the dairy industry in the past two years. This has been especially true during the summer of 1919. This decline in the dairy industry was not confined to the Tieton Unit, but was true in all parts of the project. Judging from the reports from the creameries and cheese factories in the several localities, the Tieton Unit suffered less than the other sections. Creameries in the other sections of the project report a 50 to 100 per cent decrease in receipts of dairy products and a spirit of dissatisfaction and unrest among the dairymen. The management of the Cowiche Cheese Factory, reports practically no decline in their milk receipts for the past year. The present status shows a reduction in the number of cows but no decrease in the total milk receipts of the Cowiche cheese plant, which is readily explained, and justly attributable to work of the cow testing association. While this association has not been in operation for some time, the farmers had received the benefits of a systematic method of culling out their unprofitable cows. Personal visits to the farms and discussion with the individual farmers has brought out the fact very clearly that the large proportion of them realize that live stock is necessary for a permanent system of agriculture, and that they can not afford to feed high-priced feeds to inferior and low producing stock.

The past three months' work has revealed the fact that there is a demand for good dairy cows on the Tieton. Without exception the farmer wanting cows has expressed himself as wanting cows with a "known record of milk and butterfat production.". This voluntary expression on the part of the farmer proves conclusively that he has learned the value of good stock on his farm as compared to inferior stock. The present labor shortage and high prices of feeds has undoubtedly caused an awakening and it may prove in the end to be a "blessing in disguise".

Recently this office was asked to locate about 75 head of mature grade dairy cows with a tested record of milk and butterfat production.

Holsteins have until recently been the predominating choice of the farmers. There seems to be a change in favor of the milking Shorthorn, as about three-fourths of the inquiries for cows have been for this breed.

There has been a marked lack of pastures on the irrigated farms on the project as a whole. The farmers living on the Tieton in many instances have access to the forest range. There seems to be a growing sentiment in the part of some, to sow some of their land to pasture grasses. This is true especially on the larger farm units.

Requests have come into this office for information and assistance, as soon as farming operations begin this coming spring, in seeding land to be used for pasture purposes.

## Yakima--Annual Report (Continued).

Some of the farmers are beginning to see the need of succulence in the ration the whole year through, and many are convinced that a pasture system will contribute toward economical production of dairy products.

The average farm unit of all farms on the Tieton is twenty-four acres. This includes many small tracts of fifteen acres and less devoted entirely to fruit. The average size of the farms where dairying or live stock farming is done to the extent that it contributes to the source of income from the farm is about thirty-five acres or more.

The marketing of dairy products has been quite satisfactory. There is in the valley, and usually in the immediate locality, adequate markets for either cream or whole milk with prices that compare favorably with prices in other parts of the Northwest. It is estimated by leading state dairy authorities that this state produces only about one-fourth of the cheese and butter consumed in the State. This being true, the dairymen here need have no fear of over-production. The reason given for the low amount of cheese and butter produced in the state is the fact that most of the milk produced is sold to the condenseries and is then shipped to other parts of the country.

There are forty pure bred dairy herds in the Yakima Valley, as follows:

Holsteins,	30 herds.
Guernseys,	6, "
Jerseys,	4, "

This only includes the breeders who are making a specialty of pure bred stock. This past season five Holstein herds were disposed of and exported from the Valley and no new herds have been established. Fortunately, none of the herds sold were disposed of because of not being profitable. Two herds were sold for the reason that the owners were unable to secure further lease on the land, and three were sold because the owners were retiring from farming entirely.

The local breeders of pure bred dairy stock have been fortunate. There has been a good demand for this class of stock, both locally and from outside points. Recent high prices have had a tendency to discourage new breeders with limited capital in making an investment in a herd of pure bred stock.

There are practically no herds of dairy stock that are not fairly well housed, although the cost of building material has discouraged extensive improvements. Several barns were remodeled but only a few new ones built. There is only one milking machine in use on the Tieton, the majority of the herds being too small to warrant the investment in such an outfit.

## Yakima--Annual Report (Continued).

Nearly all farms where dairy stock is kept, are equipped with at least one silo, although summer feeding of silage has not been generally practiced. Observation has proved, however, that herd owners are rapidly preparing to provide summer succulence either by silage or pasture.

The future development of the dairy industry is very promising and dairying will always be one of the major factors in farm operations on the Tieton Unit. There are three things to be considered and improved in order to put dairying on a more sound basis and make the returns more profitable, viz: (1) The need of better stock. This is quite well known and understood by the majority of the farmer-dairymen. This matter is receiving attention now and is in a fair way to be solved, provided the right class of stock can be found at prices not prohibitive. (2) Better feeding methods--that is, summer succulence, either silage or pasture grass, and the use of more concentrates. (3). The keeping of records and testing. This presents a problem not easily solved under local conditions and present circumstances. It is impossible to get a sufficient number of herds large enough to make a cow testing association self-supporting without making such a heavy charge per cow that it would place a heavy financial burden on the members of the association. A plan is being formulated whereby the owner keeps a daily record of the weights and arrangements are made for the testing to be done every two or three months. While this plan is not supposed to be an efficient substitute for the regular cow testing association, it is hoped that it will serve to give the owner a fairly definite idea of the performance of each individual member of his herd.

The dairy industry has not suffered greatly from contagious diseases. The local veterinarians report a few cases of contagious abortion, but nothing serious. There is less than 4 per cent reactors in the stock tested for tuberculosis and the reported cases of reactors were from stock imported from other states or animals exposed to the infected imported animals. This office has been cooperating in the tuberculin testing work by furnishing application blanks and giving information for the testing and in making arrangements for the testing when necessary.

There have been a few cases of bloat from alfalfa. Most of the stock owners are able to successfully treat this difficulty and are provided with instruments to meet the situation.

## Yakima--Annual Report (Continued).

The Beef Cattle Industry.--The beef cattle industry in the Yakima Valley consists of both pure bred and range stock. The Shorthorn breed predominates, but there are some excellent herds of Herefords and Aberdeen-Angus.

The feeding of stock cattle reached considerable proportions during the fall of 1919. Some 20,000 head of feeders were shipped to the valley to be fed for market. The larger part of these are being fed on the Sunnyside Unit and the Indian Reservation, though there are a few feeders on the Tieton Unit. Previous feeding operations carried on by the local beet-sugar factories stimulated, to a very large extent, interest in the feeding of stock cattle. The shortage of feed in the cattle growing sections of Montana and Idaho due to the prolonged drought of last season caused a much larger number of feeder cattle to be marketed than is usually done in the fall of the year. With the markets well supplied with this stock from the ranges, the farmers of the valley were able to secure a fair class of cattle for feeding purposes. While there was a larger number of cattle than is commonly thrown on the market at this season of the year, the market remained steady and did not slump as was quite generally expected. This is accounted for from the fact that there was a demand larger than usual for feeder cattle. The market price ranged from \$8. to \$10. per cwt. for the cattle at unloading points.

For a great many farmers the feeding of cattle was more or less a new experiment, and many of them were not properly equipped by way of protection for the stock, although feed was generally plentiful. The winter of 1919-20 was unusually severe. During the months of November and December it was difficult to secure as much gains on cattle as are generally secured, owing to exposure to the weather. Many feeders report no gains during those months. The rations being generally fed consists of alfalfa hay, silage and beet-pulp. In some few cases grain is added to the rations. Beet-tops were fed by turning the cattle into the beet fields after the beets were removed from the fields. Some very satisfactory and economical gains were made in this way.

So far as is known only one feeder on the Tieton has disposed of his cattle bought last fall and "fed out" and marketed. In this case, Roy Forney, of Tieton, bought 91 head of two and three-year-old steers in October, 1919, for \$8. per hundred at feeding point. These steers were turned into a field of beet tops and made an average gain of two pounds per day for twenty days. They were put in the feed lot and fed a ration of alfalfa hay and corn silage. They were sold on the 23rd. of January for 1 $\frac{1}{2}$  cents. These cattle had made a gain of 200 pounds per head in a little over three months. Mr. Forney reports that the most economical

## Yakima--Annual Report (Continued).

gains were made on beet-tops. The fact that there was no labor charge during the time the cattle were harvesting the beet-tops accounts partly for the economical gains made.

In general, however, the Tieton Unit is not developing into a general stock feeding locality. The cattle feeding industry is developing mostly near the sugar-beet factories.

It is difficult at present to determine what effect this year's cattle feeding will have on the future of the industry in the valley. If the market remains steady or improves so that this year's feeding operations prove profitable there will no doubt be more stock fed here again next season. In case the market declines only those that are the most successful will continue. With favorable conditions generally prevailing here the cattle feeding industry should continue to grow.

The herds of pure bred beef cattle continue to increase. The Shorthorn herds have increased 100 per cent in the past two years. Other breeds have not increased, which shows the predominating local popularity of the Shorthorn over other breeds. The breeders all report a greater demand for pure breeds than they are able to supply.

The Sheep Industry.--The sheep industry is still on a substantial basis with the larger sheep rancher who has access to the open range, but on the smaller irrigated farms this industry has not met with the same measure of success as in the case of the other classes of live stock. Table IV indicates quite definitely the status of the sheep industry, particularly on the Tieton Unit. The same might justly be said of the other parts of the valley.

The status of the industry is not as unfavorable as the table might indicate. The cause for the reduction in the number of sheep on the Tieton Unit is mostly due to the fact that during the past year many farmers have sold their sheep in order to devote all their time to developing their orchard and fruit interests. Many of the fruit farmers until this year kept a few sheep in their orchards. The general disposal of these small flocks effected the number of sheep of the unit.

The number of pure bred flocks has increased during the past two years. There are at present fourteen herds of pure bred sheep in the Yakima Valley. The most popular breeds are the Hampshire, Lincoln, Cotswold and Shropshire, with some few herds of Romney, Corriedale, Oxfords and Rambouilletts.

The larger sheep owners are using pure bred bucks on their range herds and with this class of owners there is no sentiment toward reducing the size of their herds.

## Yakima--Annual Report (Continued).

The feeding of sheep is mostly confined to wintering of the range herds. In general the marketing is done in later summer and fall directly from the ranges instead of from the feed lot. Winter lamb-feeding has not developed to any great extent by the sheepmen.

The cooperative grazing scheme attempted in 1919 was only fairly successful. With the increased reduction of the small herds of this season it is quite probable that the cooperative grazing plan will not be continued this coming season.

Most of the sheep from this section are marketed at Chicago and Spokane. The latter market is being rapidly developed in the past four years. Packing firms are establishing branch houses and yards for handling sheep in large numbers. Several sheep commission firms have recently been organized at Spokane. Prospects seem fair for the development of a first class market center at this place.

During the time of the State Fair, held at Yakima, in September, the first pure bred ram sale was held. This sale was held with the intention of making it an annual event and was conducted by Mr. Hyslop, of Spokane, formerly head of the animal husbandry division of the Washington State Agricultural College. Rams of all breeds were consigned and sold at public auction. This sale proved very satisfactory and no doubt will have a stimulating effect on the sheep industry of the state in general and of this project in particular.

The sheep men have not suffered heavy losses from diseases. Some few losses have been reported on the ranges from predatory animals and poisonous plants. Some few comparatively heavy losses were reported from the forest fires the past summer and fall, but these were unavoidable. The greatest complaint of the sheep men is their inability to secure reliable sheep herders.

The Swine Industry.--The swine industry on the Tieton Unit has suffered reverses in the past year on about the same proportion as the other forms of the live stock industry. The high-priced feeds, ready market for feeds, labor shortage and the uncertain market for fat hogs are responsible for the reduction in the number of hogs and general decrease in the industry.

Many hogs were sold when the hog market was at its highest in July. Others were held and finished. The early decline of the market at the time when finished hogs were ready to ship caused uneasiness among many farmers and they were generally reluctant to restock. As a result, when the Reclamation Service made the annual survey in the early winter, there was a decided reduction in the number of hogs over the previous year.

## Yakima--Annual Report (Continued).

Table V shows the status of the hog population of the Tieton. There are at present 51 breeders of pure bred hogs in the Yakima Valley. This includes all breeds. The Duroc-Jersey breed predominates, there being 24 herds of this breed, with Poland Chinas second, Berkshires third, Hampshires fourth and Tamworth fifth in numbers.

While there has been a temporary reduction in the hog population, there is no sentiment to show that this will continue. All indications seem to show that this is only a temporary condition. There is at this time the greatest demand for pure bred hogs and higher prices are prevailing than at any other time in the history of the valley. A recent sale of a carload of pure bred Poland China hogs proved conclusively that the hog industry is considered by the local breeders to have a substantial future growth. Forty-four head of pure breeds were sold at public auction on January 26. The average price paid was \$170. Eliminating six pigs sold to club members, the mature animals, including male and female, averaged over \$200. per head. The highest priced animal at this sale, a three-year-old sow, brought \$400. This sale, while being promoted by the American Poland China Breeders' Association, has been the means of causing the local breeders to become interested to the extent that another sale of this kind will be held in the near future. The hogs for the next sale will be from the herds of local breeders.

Plans were made to continue some cooperative hog pasturing experiments previously started in cooperation with two farmers living on the Tieton. The plan was to use spring farrowed pigs, grow them to maturity by using a system of pasturing, beginning in the spring on alfalfa pasture until the field peas were ready, then hogging-off the field peas, and finishing the hogs for market by "hogging-off" corn. Unfortunately this plan was interfered with by the sale of both farms at about the time the corn was ready to use. The new owners, not thoroughly understanding the previously arranged plans, were unable to carry them out to the final finishing of the hogs ready for the packer. The following tabulated data will, however, in a measure, give some idea as to the results obtained, using alfalfa for growing the pigs up to the time of weaning, and, after weaning by using field peas as a pasture crop for growing pigs. Results secured on the project with field peas as a forage crop for hogs has been sufficiently successful to indicate the high value of the crop as a hog feed.

## Yakima--Annual Report (Continued).

Herd No. 1.

Date begun,	July 20
No. of pigs,	45
Age of pigs, (weeks)	12
Av. initial weight, (lbs.)	45.35
Total days on peas	65
Date 2nd weighing,	Sept. 23.
Av. final weight, (lbs.)	100.11
Average gain, (lbs.)	55.85
Total gain,	2513.25
Gains in lbs. per acre	
pasture,	625.31
\$16.50 per cwt. (actual	
selling price)	103.176

Herd No. 2.

Date begun,	July 25
No. of pigs,	75
Age of pigs, (weeks)	14
Av. initial weight (lbs.)	57.89
Total days on peas,	45
Date 2nd weighing,	Sept. 8,
Av. final weight (lbs.)	97.87
Average gain, (lbs.)	40.48
Total gain,	3035.
Gains in pounds per acre	
pasture,	647.45
Returns per acre at	
\$16.50 per cwt. (actual	
selling price),	106.829

The pigs of Lot No. 1 were well bred Duroc-Jerseys about twelve weeks old. They had been running with the sows on alfalfa pasture until weaned.

They were weighed on July 20, and turned into a field of peas on the same date. The peas had reached the stage where some of the pods were fairly well matured. The field was fenced with hog-tight woven wire on the outside and cross-fenced with movable panels. As the peas in the area enclosed with panels were consumed the panels were moved, allowing the pigs a fresh supply of feed. During this period no supplementary feedes were fed.

Herd No. 2 was treated the same as herd No. 1. There is a slight difference in gains made. Herd No. 2 consisted of 69 head of well bred Duroc-Jerseys. Some of the sows were from the same herd as the sows of pigs in Herd No. 1. The remaining six pigs were well bred Poland Chinas. The slight difference in gain may be accounted for by the fact that the pigs in herd No. 1 were allowed to run in the field for two weeks.

## Yakima--Annual Report (Continued).

after the peas were well cleaned up, consequently the gains made, if any, during this time were slow. This came about as a result of the owner of herd No. 1 selling his farm. The livestock went with the farm but with the plans of management somewhat changed.

The original plan, at the beginning of this work, was to carry both herds to maturity by hogging-off a field of corn in each case, but unfortunately before the end of the season both farms were sold, which materially changed the season's plans for these two herds.

The prices of \$16.50 per hundred allowed were what the hogs actually sold for later in the season. It is interesting to note that these two herds went to make up a carload of fat stock hogs exhibited at the Pacific International Live Stock Show, at Portland, Oregon, in November, and were winners in that class.

The farmers in general have fair equipment and facilities for handling hogs. Feeds are generally abundant, or at least can be grown if needed. Where orchards constitute a part of the farming operations, hogs are used to some extent to use the unmarketable fruit. While the use of hogs in pasturing the orchards is not recommended as a practice to be continued throughout the growing season, there are times during the season between irrigations when they can be profitably used in this way.

This project was comparatively free from outbreaks of contagious disease the past year. One pure bred herd contracted the cholera after being out on exhibition during fair time. This herd was vaccinated and voluntarily quarantined. So far there has been no further trouble reported in this locality. Some trouble has been experienced in the past with goiter and hairless pigs occurring in some localities. Very little trouble of this kind was reported this past season.

Hog growers experience no difficulty in marketing hogs. Seattle, Spokane and Portland provide ready markets for any surplus over the local market demands. The future development of the hog industry depends to a very large extent on the general market of the future. At present the farmer is reluctant to increase his herd to any great extent. They base their reasons for this upon the hog market of last summer, fall and early winter, as compared with the market for feeds.

Yakima--Annual Report (Continued).

Numerical Summary.

July 1, 1919, to December 31, 1919.

Farm visits made. . . . .	220
Calls for assistance answered . . . . .	29
Office calls . . . . .	57
Circular letters mailed . . . . .	62
Demonstrations:	
Farm records begun . . . . .	7
Hog pastures begun . . . . .	3
Average price of butterfat . . . . .	.65
Average price of alfalfa hay (baled) . . . . .	\$25.00 ton.
Price of hogs . . . . .	\$13. to \$22.50 cwt.

----ooooo----



## **WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

APR 17 1920

28

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

April 17, 1920.

No. 16

Western Irrigation Agriculture.

Field Notes.

Newlands.

During the two weeks ending April 10, barley was seeded in the following plats: G 1 to 5; F 3, 15; H-14, 15; B-7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and the west ends of H-11, 12 and 13.

Alfalfa roots were hauled from H-8, 9 and 10, after which the plats were plowed the second time and leveled ready for potato planting. Plats G-1 to 5 were seeded to sweet clover in with the barley. Gypsum was applied to plats Y-10, 12, 13 and 15.

The unoccupied space in A-3 was plowed, leveled and made ready for planting. Plantings of beets, carrots, parsnips, radishes, salsify, turnips were made in the garden.

The following plats were irrigated: C-2 to 9, inclusive; grass varieties in A-3 and the vegetable varieties in A-2.

Mr. Morrel Powell who has been assistant superintendent on the Newlands Experiment Farm since February, 1919, has accepted a position as County Agent in Franklin County, Idaho. Mr. Elmer W. Knight will succeed Mr. Powell.

San Antonio.

During the week ending April 10, the maximum temperature recorded was 90, minimum 29, and greatest daily range 32. Frost occurred the night of April 4. This is the latest killing frost recorded at the station since 1907. Considerable damage was done to corn, cotton, truck crops, some fruit trees, and to the more tender ornamentals. There was no precipitation recorded.

Old growth of Johnson grass and weeds on fields A-7 B-7 and C7 is being mowed.

## San Antonio (Continued).

The main farm road through the low ground on A3-B3 was graded and a culvert put in at the low point.

Manure was hauled from the corral and barn to the compost pile.

Hand labor was used to repair farm fences and buildings; repair machinery; paint and set stakes for rotation plats; irrigate and cultivate ground plantings; grind feed and destroy bird nests in the citrus orchard. Painting of the farm residence was begun.

Demonstrations on Reclamation Projects.Field Notes.

## Huntley.

During the week ending April 10, 6 farm visits were made, 6 conferences held and 17 requests for assistance received. An article, "Growth of Dairying in the United States", was prepared for "The Yellowstone", the project paper. Several of the farm visits were made in response to inquiries concerning enlargements about the neck or jaw of dairy cows. In each case actinomycosis was suspected and the owner advised either to secure the services of a veterinarian or administer treatment himself.

Owing to the high price of hay and the scarcity of hay during the late winter and early spring, many beef cattle are in a weak and unthrifty condition and are consequently an easy prey to disease. Especially numerous are cases of digestive troubles.

Eighteen milk samples were tested and the office records of dairy herd production occupied considerable time.

## Minidoka.

Farm visits during the week ending April 10 were 3 in number, office calls 25, and no meetings attended.

A visit was made to the Stock Show at Salt Lake City. The show was well attended, and had a fair exhibit of various stock. Prices for the fat animals were not anywhere near compared with last year and the present financial situation handicapped the show in general. The organization might be criticized inasmuch as it does not have the moral support of the citizens of Salt Lake as is shown at Portland and Spokane.

Newlands.

One of the principal items of interest on the Newlands project at the present time is the drainage question. The various provisions of the proposed drainage contract with the government has been the subject of discussion at various public meetings, and the two local papers have been devoting a large amount of space for the purpose of furthering the cause. The newspaper articles have been largely contributions from the various water users who favor drainage. Those opposing the drainage contract have not had sufficient courage to sign their names to a published article. The opposition to the drainage contract does not seem as great as it was in the beginning. Project settlers are very hopeful of the acceptance of the contract when it comes to a vote on April 6.

During the week ending April 3 there was imported into the valley two registered Holstein cows and one registered Holstein bull. These cattle were purchased at the California guarantee sale by Mr. Long, who has the principal registered Holstein herd in the valley and perhaps the principal one in the whole state. At the time of this sale, a registered Holstein bull was purchased in the Fernley District to be used by an association of small dairy men. The bull purchased was bred by Mr. Long and sold at the Sacramento sale.

On Tuesday a meeting was called by one of the members of the local farm bureau for the purpose of discussing the advisability of reestablishing a creamery at Fallon. A representative of the Mutual Creamery Company was present. After much discussion, it was the opinion of most of those in attendance that competition was so great that for what cream is produced here it would be a hard matter to maintain a cooperative creamery in this field. However, this subject will be brought up at a later date at a number of meetings and the possibilities looked into in more detail.

During the week ending April 10 there were received thirty calls for assistance and visits were made to seven farms. Perhaps the most important news item concerning the project is the passage of the new drainage bill, that will provide adequate drainage for the Newlands project. The bill carried about five to one for the drainage which was a surprise to most every one in view of the fact that there seemed to be considerable opposition. The passage of the drainage provision has already stimulated new interest on the part of the outsiders who were interested to some extent in the project before the bill was passed.

Assistance was given one party in the selection of a herd sire from one of the registered herds on the project. One demonstration in the treatment of milk fever was carried out. Assistance was rendered in some cases of difficult

## Newlands (Continued).

farrowing on one large ranch where a large number of sows are farrowing. Mr. Renfro, who is proprietor of the ranch is going into hog raising quite extensively. He is farrowing about twenty sows and expects to run the pigs on his wheat stubble this fall.

## Shoshone.

During the week ending April 10, two farm visits were made, 27 office calls were received, 10 milk samples were tested and one newspaper article was written.

A hog buyer has been on the project this week trying to make up a carload of hogs with what he has bought near the project. As there seemed no possibility of the agriculturist being able to make up a load on the project, the buyer has been assisted in locating project hogs.

Plans for hog house construction recommended by the agriculturist for this project were discussed with a farmer who is planning to increase his swine herd.

An attempt was made to arrange for the cooperative shipment of a car of cattle, but it was impossible to secure the few cattle necessary to complete the carload. Not many cattle are being sold now.

Several farmers have listed their ewes for sale but buyers seem to be holding off until grass comes in the mountains. Some of the farmers wished to sell before lambing but as lambing has started they will have to wait until lambing is over. One man is feeding dried beet pulp to lambing ewes with excellent success.

Farmers continue to ship cream and eggs and to obtain excellent profits over prices paid by local produce company.

## Yakima.

Nineteen farm visits were made, five conferences held and five office calls received during the week ending March 27.

On account of the work coming to a close at this office April 1, no new work was attempted. The farm visits that were made were made for the purpose of giving the farmers what assistance was possible and seeding of field peas for hog pasture, sweet clover for summer pasture for dairy stock and assistance in constructing hog barns and hog feeding problems.

Several days were spent in conference with Mr. Cooley relative to the closing of the office and other details of the work. Conferences were held with Mr. Tiffany and others.

Yakima (Continued).

Seven farm visits were made, three office calls had and two conferences held during the week ending April 3.

Considerable time was spent this week in preparing the office equipment for storage, packing, crating, boxing and checking of the office equipment.

Two days were spent on the Tieton visiting farmers and stock men. Ninety-one head of cattle were vaccinated for blackleg. Some assistance was given to testing dairy cows and arranging for the seeding of pastures for dairy stock and hogs.

Twenty farm visits were made, four conferences held during the week ending April 10.

A trip was made to Sunnyside and vicinity, visiting farmers in that locality prior to leaving the project. Some of the cattle feeders of the lower valley were visited with the purpose of getting information and data relative to the results of cattle feeding operations carried on there this past winter. The farmers and stock men who have finished cattle and marketed them are rather discouraged over the results. In only one case is it found that cattle feeding this past winter was a profitable venture, and in this case the cattle were sold in January at  $11\frac{1}{2}$  cents that had been bought in October for 8 cents. This lot of 91 head of cattle made an average gain of 200 pounds per head. In this case Mr. Fornsy bought his stock lower than any one else and by selling early received the benefit of the market before it fell this spring.

Most of the feeders that bought cattle late in October and November paid \$9. to \$10. per hundred for their stock and after feeding all winter were only able to dispose of them at from  $10\frac{1}{2}$  to 11 cents at the market center. After deducting transportation charges to market, commissions and shrinkage, they sold their cattle for practically the same money that they paid for the stock in the fall. This leaves only the gains for profit without any margin, which under present conditions does not prove profitable. Even the feeders that fed beet pulp directly from the sugar beet factories lost heavily on stock fed. Three feeders report that by feeding cattle they were only able to market their feed at about the regular market price and lost their labor and interest.

In one case at Toppenish where 1200 head of steers were fed the owners report a loss of approximately \$10,000. In general it is safe to say that the feeding of beef cattle has proved unprofitable the past year and will result in less cattle feeding being done in the next few years, unless conditions change materially from what they have been the past two years.

The feeders name three reasons for this condition: (1) The high price of feeders stock in the fall, (2). High cost of feed and labor during the winter, and (3) Low markets in the spring.



THE DEVELOPMENT OF LIVE STOCK INDUSTRIES  
ON THE SHOSHONE RECLAMATION PROJECT  
IN 1919.

By Don. G. Magruder.

INTRODUCTION

During the year 1919 on the Shoshone Reclamation Project, the number of dairy cattle, beef cattle and sheep increased to a slight extent while the number of hogs decreased decidedly. While dairy cattle increased in numbers there was a decrease in butterfat production. Very little attention has been given to butterfat production this year due to the scarcity and high price of labor and to the high price of feed, while the price of dairy products was low in comparison with the prices of other farm products, but there is a growing tendency to save heifers in preparation for expected cheaper prices of feed and higher relative prices of dairy products. The increase in the number of beef cattle was due mostly to an expectation of good range pasture next summer and of cheaper alfalfa hay next fall. As sheep have increased in numbers it might be said that interest in sheep production has increased, but there is not the enthusiasm for sheep that there was a year ago. More farmers are keeping a few sheep but the idea of keeping enough breeding ewes on the farm to consume all the alfalfa is not so prevalent. The serious losses from bloat decreased the enthusiasm for pasturing alfalfa, and some of the farmers found that sheep required more feed and care than they expected. The decrease of interest in hogs was due to high prices of feed and to the rapid decline in hog prices.

The field work was devoted chiefly to dairying, sheep production and hog production, with some attention being given to beef production. In this work cooperation was had with the State Agricultural College of Wyoming and with various federal agencies interested in the development of the project.

THE DAIRY INDUSTRY.

General status.--During the past year dairying continued to be a minor industry on this project. On most farms only enough milk cows were kept to supply the family with dairy products. The small surplus which this afforded was marketed as cream or butter. On these farms the cows were made to rustle most of their feed from pasture and straw stacks, being fed only enough hay to keep them in fair condition. Even those few farmers who consider themselves

## Shoshone--Annual Report (Continued).

dairy specialists have limited the number of their milk cows to what they could maintain on the least expensive feeds and have made little attempt to feed for high production.

The sentiment has been decidedly against dairying as a business this year, but there has been general expectancy that conditions will be more favorable to dairying in the near future. This has caused a good many farmers to save heifers, which accounts for the increase in the number of dairy cattle. In my opinion this attitude has been largely justified. Labor has been scarce and unreliable so that there has been a tendency for the farmer to limit his farm industries to what he could care for with little hired help. His own time could be employed more profitably in beet, potato, grain, sweet clover seed or alfalfa production than in dairying, with prices as they have been during the past year. With alfalfa hay and other local feeds at prices offered by buyers from drouth-stricken districts near this project, and with prices offered locally for butterfat, there has been little profit in butterfat production. Then, on a one-man farm, the proper care of a dairy herd seems to conflict with the proper care of crops. On most of the farms irrigation is such exacting work that it interferes with the proper care of dairy cows. Cooperation in wheat threshing, when a large part of the crew does not milk cows, interferes with the proper care of dairy cows. The harvesting of potatoes and beets is done with a rush so that the harvesting can be finished ahead of the fall freezes. Very few farms are provided with the kind of shelter which is needed for profitable dairying and building is almost prohibitive with labor and lumber at present prices. Lack of proper breeding discourages dairying. Improvement in breeding requires considerable time and expense and the farmers are not inclined to go to this trouble and expense when conditions are unfavorable to the industry. The local market for butterfat has been very unsatisfactory, most of the time being decidedly lower than that in neighboring towns. So with conditions as they have been the farmers were probably justified in limiting their dairy operations. However, I believe that those who are saving their heifers are wise because labor conditions and relative prices of feed and dairy products will probably become more favorable to dairying and with these changes in conditions, the farmers can afford to provide proper shelter and to improve the breeding of their herds and all of these things, together will make dairying profitable.

## Shoshone--Annual Report (Continued).

Stock population.--In the Reclamation Census this year, 1323 dairy cattle were reported which is 111 more than were reported in 1918, but 110 less than were reported in 1917 and 304 less than in 1916. I think that this increase over the year before was due to heifers saved in expectation of more favorable conditions for dairying in the near future. A few good cows were sold to parties off the project. No importations of consequence were made.

The average number of dairy cattle per farm and the number of herds of different sizes were as follows:

	1916	1917	1918	1919
Dairy cattle reported.....	1627	1433	1212	1323
Avg. No. cows per farm.....	2.65	2.33	1.94	2.10
Farmers reporting 1 to 5.....	242	270	277	300
Farmers reporting 6 to 10.....	72	48	26	45
Farmers reporting 11 to 20.....	19	14	12	13
Farmers reporting 21 to 30.....	3	4	3	2
Farmers reporting 31 or over.....	3	0	0	1

Very little was done in connection with exportation or importations of dairy cattle, other than assistance given two farmers in the purchase of registered dairy bulls and the disposal of surplus cattle through cooperative shipments.

Breeds and breeding.--For dairy purposes the tendency is decidedly toward the Holstein. Registered Holstein cattle are kept on four of the project farms. At least eight other farmers have registered Holstein bulls. There are a number of Shorthorn cattle on the project but they are mostly a few in a place. There are several grade Shorthorn bulls but so far as known only one registered Shorthorn bull. There are much fewer Jerseys than Holsteins or Shorthorns and they are few in a place. There is but one Jersey bull and he is registered and in a registered herd with about five cows. One man has Guernseys and a registered Guernsey bull.

The tendency with respect to breeding practices has been for those farmers who have registered cattle, and for some of those who have the larger herds, to keep bulls. A few of these bulls are quite well bred, The majority are registered but have no records, and some of them are merely high grades. Those who buy bulls practically always buy them as calves and keep them until their heifers become old enough to be bred, when the bulls are sold for beef. Occasionally one of the best bred sells for breeding purposes when he has been used as long as desirable on the original farm, but as the older bulls are not proven bulls the farmer usually much prefers to buy a young bull which is not dangerous and which will gain in weight. The farmer who does not keep a bull breeds to a

## Shoshone--Annual Report (Continued).

neighbor's bull. A few of those who own good bulls will not breed outside of their own herds for fear of disease. A few who own good bulls use their bulls for public service and charge enough so that they can afford to keep such a bull for the purpose and give him proper care. Most of these who own bulls allow neighbors to use their bulls and charge small fees but seldom collect them. When these latter men sell their bulls they seldom buy others as the ownership of bulls is unprofitable for them.

The principal need with respect to breeds seems to be stricter selection of special dairy cattle with very little regard for their beef-producing tendencies, and the principal need with respect to breeding practices is for a number of the best dairymen to personally own well-bred bulls, give them good care, stand them at public service and charge enough for a service that they can afford to keep the bulls and give them proper care. These owners should trade bulls and keep track of the production of their heifers so the value of the bulls could be determined and those which prove out well could be kept in the community. In my opinion with conditions as they are on this project, this method will get better results than a bull club.

Very little was done by the agriculturist this year in connection with breeding, because of lack of interest in dairying. Registered bulls were purchased for two farmers.

Herd improvement.--Not a great deal has been done toward herd improvement during the past year, as the farmers have not been very much interested in dairying. However, well bred registered bulls have been available to all the farmers on the project and a large majority of heifers saved are by these bulls. No regular testing has been done, but there has been some miscellaneous testing of cows which had not been tested previously. Eighty-one cows were tested during the year. The agriculturist furnishes sample bottles and does the testing. The herds are not large enough to make a testing association practicable.

Feeds and feeding.--Because of the high prices of alfalfa hay and grain compared to the price of butterfat, most of the cows have been on rather short rations this year. During this last fall and winter most of them have had to rustle on grain and alfalfa stubble and received a little alfalfa hay at night. Only two silos were filled this fall. Both of these were filled partly with corn and partly with sun-flowers. The sunflowers which were put into one silo were well matured when put in. This sunflower silage seemed to feed as well as corn silage. In the other silo the sunflowers were put in very green. This silage is distasteful to the cattle. On the other

## Shoshone--Annual Report (Continued).

farms where silos are located not enough cattle were kept to justify filling the silos. A few mixed grass pastures were used which had been seeded in previous years. On the best of these pastures, there was so much trouble with bloat that the results were very discouraging. Some pasturing of sweet clover was done, but not enough to amount to much. The feeding of beet tops or beets to milk cows was negligible. A few men fed a little ground oats to some of their best cows. Very little pasturing was done on the range adjoining the project, as the severe drought made that pasture practically worthless. The forest reserve range is not used for milk production.

The principal requisites for improvements in feeding are better balanced rations and more feeding of individual animals according to their production. The agriculturist has encouraged improvement along this line, but no feeding tests have been made.

Equipment.--Several new barns were built in which provision was made for a few cows, but there has been practically no special dairy construction. One man who started retailing milk in Powell built a fairly good dairy barn. With the exception of the construction of this barn, very few falls regarding dairy construction were received. No milking machines are used.

Diseases.--There has been very little trouble with diseases. Very little bloating on alfalfa and sweet clover has been reported. The bloating on the mixed grass pasture caused no loss because the cows were carefully watched, but this case of bloating has caused some hesitancy in the seeding of mixed grass pastures.

Production and marketing.--The amount of butterfat produced is not known because a large part of it was shipped by individuals and by cream stations. Probably more than half of that produced was made into butter by the local cooperative creamery and the butter was sold locally and in towns nearby. The following average prices by months were paid for butterfat at the creamery: January, 60 cents; February, 47 cents to 50 cents; April, 58 to 60 cents; May, 55 cents; June 54 cents to 56 cents; July, 50 cents; August 55 cents; September, 55 cents; October, 58 to 60 cents; November, 57 to 68 cents; December, 58 to 68 cents.

There is a very great need for a good market for butterfat and a great deal of time was spent in attempting to provide a market as good as those in neighboring communities. This effort has been along the line of making the local creamery successful. However, this effort has not produced satisfactory results so far, and a satisfactory market still remains a very

Shoshone--Annual Report (Continued).

serious problem.

Relationship to other local industries.--Skim milk is fed to hogs and chickens. Those who keep many chickens consider skim milk almost an essential. Cows consume a large part of the waste from crops. They pasture alfalfa and grain-stubble and eat some straw. On farms where beets are grown, all or part of the tops are fed to the cows. Cull potatoes are sometimes fed to cows.

Cooperative features of the industry.--About the only cooperative feature of the industry is the cooperative creamery and that seems doomed to failure. The amount of butterfat on this project which this creamery could reasonably expect to get has so decreased, and the creamery equipment is in such condition, that the proposition does not seem to be attractive to a good creamery man. It seems that none of the stockholders who have served as directors will take the time or know enough about creamery management to properly supervise the work. The tendency has been decidedly away from cooperative ownership of bulls.

The need here is for more cooperation but so long as the ownerships of the farms changes so frequently and the people are so little acquainted, cooperation will be difficult. Cooperation will be easier when people become more settled. As prices continue to fall so that farming here is a little less profitable, cooperation will be more desired. This is already becoming noticeable.

Future development of the industry.--The farmers generally seem to be beginning to be more interested in dairying as they are expecting conditions to become more favorable. The price of butterfat is expected to stay up after the price of beef drops.

With the price of land becoming so high it is becoming more and more necessary to obtain as large returns as possible from the waste on the farm and when labor can be obtained to give proper care to dairy cows during the rush of the cropping season, there will be a greater tendency to use dairy cows to consume the waste. It is expected that labor conditions here will soon begin to improve.

#### THE BEEF INDUSTRY.

Status of the industry.--An increase in the number of beef cattle on the project would indicate an increased interest in beef production. This increased interest is probably due to an expectation of good pasture conditions on the

## Shoshone--Annual Report (Continued).

range next summer and to an expectation of cheaper feed in the near future.

Stock population.--The number of cattle reported in the Reclamation Service census and the number of herds of different sizes was as follows:

	1916	1917	1918	1919
Total number beef cattle.....	976	947	1135	1412
Average number per farm.....	1.59	1.54	1.82	2.24
Number of farmers reporting 1 to 5	78	78	53	74
" " " 6 to 10	23	21	11	13
" " " 11 to 20,	8	16	7	6
" " " 21 to 30,	0	3	5	5
" " " 31 or over,	9	6	6	9

The increased stock population is in the smallest and largest herds. That is, there was an increase in the number of men who keep a few beef cows which supply the family with milk and raise their calves and an increase in the number of those who have large herds and rent stubble pasture and buy straw stacks from project farmers to carry their cattle during the winter.

A few cattle were brought onto the project from the surrounding country. Eighteen cars of cattle were shipped off the project during the year, 12 of these cars being shipped cooperatively with the assistance of the agriculturist. A few cattle were sold to ranchers off the project.

Breeds and breeding.--A large majority of the cattle classed as beef cattle are grade Shorthorns. Practically all of the small herds which are classed as beef cattle are Shorthorns. The largest beef herd consists almost wholly of Herefords and other of the large herds have a good many Herefords. There are a number of high grade Shorthorns and Hereford bulls but none registered. No other beef breeds are represented.

The man with a few cattle uses his neighbors bull or buys a bull calf which he uses until this bull's heifers are old enough to breed or until he begins to get mean. The bull is then usually sold for beef. For the larger herds, bulls two years old or over are bought and when the owner is through with the bull he often trades with some other man who has a large herd.

Herd improvement.--Not a great deal has been done by the agriculturist to improve the beef herds. In the spring before the seasons breeding had been done, the six men who were interested in buying beef bulls were taken to see a herd of

## Shoshone--Annual Report (Continued).

registered Hereford bulls, but none was bought. The herd had been pretty well picked over and those remaining were not satisfactory. Those who send cattle to the forest reserve are urged to send well bred Hereford bulls, not only for the purpose of getting well bred beef calves, but also for the purpose of keeping the good will of those whose herds range near and mix with the project herd. It is very important to have this good will and using poorly bred bulls is the easiest way to lose it.

Feeds and feeding.--The feeds mostly used are the range surrounding the project and in the forest reserve, alfalfa and grain stubble, straw, alfalfa hay and beet tops. Some beef cattle are kept on the farm during the summer but practically all of them summer on the range. The range joining the project was very poor this summer because of the drought so practically no cattle were left on this range by the middle of the summer. The range on the forest reserve was fairly good, but the use of that range was very unsatisfactory this year. The herder for the association which handles the cattle, was paid sixty cents per head per month except that bulls and sucking calves were herded free. He had agreed to stand one-third of the loss for seventy cents per month but no one took the insurance. Five hundred and twenty-seven cattle were sent out by the association. As usual the cattle were taken out onto the range adjoining the project for about a month before starting to the forest reserve. The first trouble came in rounding these cattle up for the trip to the reserve. The drought had become so severe that they could not be rounded up as with the grass so short a bunch could not be held long in a place. The herder had to start on the east side of the local range and take what he could get in a general drive toward the forest reserve. A second drive got most of the cattle but some were left behind. The serious trouble came in the fall. Early and severe storms caught the cattle before the herd was gotten back to the project. A large number were lost and most of those which were saved were so thin from exposure and lack of feed that none of them was in condition to be shipped.

During the winter beef cattle pastured on alfalfa and grain stubble and ate from the straw stacks. In severe weather they were fed a little alfalfa hay. A few cattle were marketed off of beet-tops. No grain was fed.

Probably the main requisite for improvement in feeding is better herding of cattle on the forest reserve and getting the herd back to the project ahead of any possible storms. All of the shipping could then be done directly from the range. The winter feed can be better used in carrying cattle through the winter than in feeding them for market, unless there is a large amount of beet tops to be fed.

## Shoshone--Annual Report (Continued).

The agriculturist gave a great deal of assistance to the association in handling the forest reserve herd.

Equipment.--For a great many of the cattle no shelter is provided except what they can find around straw stacks. Some can run to straw sheds. A few are sheltered in barns. The small herds are usually much better sheltered than the large herds.

Diseases, pests and minor ailments.--A few animals died of blackleg but practically all of those which were sent to the range were inoculated. The agriculturist inoculated 205 cattle in 13 herds and furnished vaccine and a syringe for others who had been given demonstrations in previous years.

Production and marketing.--Eighteen cars of cattle were shipped from the project during the year, 12 of these being shipped with the assistance of the agriculturist. So far as I know, all of these cattle were shipped to Omaha. The Yellowstone Packing Company, at Billings, has never been able to handle anything like the number of cattle that was produced in its territory and it has no provision for handling canners.

Relationship to other local industries.--On farms where beef cattle were kept, they were as a rule kept for the purpose of consuming by-products of crops. They consumed alfalfa stubble and unmarketable hay, grain stubble and straw, some cull potatoes and beet tops. Some hay was fed when this was necessary in order to keep cattle in condition, but very little hay was fed. The only relationship between beef cattle and other live stock was that the dairy bred steers and dry cows were sold for beef as a by-product of the dairy industry.

Cooperative features of the industry.--There were two fundamental cooperative features of the industry--the cooperative use of the forest reserve range and cooperative shipments of cattle. A large majority of the project cattle which were not being milked during the summer were sent to the forest reserve range through a cooperative association. The agriculturist gave a great deal of assistance to this association.

Twelve of the 18 cars of cattle which were shipped were shipped cooperatively with the aid of the agriculturist. Cattle were listed for shipment and, when a carload was ready, were shipped in the name of one of the banks, each man's cattle being marked with a hair brand and sold separately. When the returns came to the bank, the returns for each man were figured by the agriculturist. The cooperative shipping of

## Shoshone--Annual Report (Continued).

cattle has been very much appreciated because not enough cattle are shipped to arouse competitive buying.

Future development of the industry.--It is hard to say what the future of the beef industry will be. The use of the forest reserve range has been very unsatisfactory. If the use of this range does not become more satisfactory, this is very likely to affect the beef industry very unfavorably. However, if the use of this range becomes satisfactory, hay becomes cheap and the beet industry develops so that a large acreage of beet tops is available, it seems likely that the beef industry will decidedly improve.

THE SHEEP INDUSTRY.

Status of the industry.--The Reclamation Service census which was taken in November shows a perceptible increase in number over the year before, but in reality there is less enthusiasm for sheep than a year ago. Those who have only a few sheep are fairly well satisfied, but those who ran a number of breeding ewes on the farm throughout the summer were dissatisfied with the results. The loss from bloat in pasturing alfalfa was considerable and the sheep consumed more feed than the farmers had expected.

Stock population.--The Reclamation Service census shows the following number of sheep on project farms and the number of herds of different sizes in November of the year the census was taken:

	1916	1917	1918	1919
Number sheep on project farms.....	1645	2920	4143	4651
Average number per farm.....	2.68	4.75	6.64	7.37
No. farms having 1 to 10.....	29	35	34	49
" " " 11 to 30.....	9	7	7	21
" " " 31 to 60.....	5	4	8	6
" " " 61 to 100.....	0	3	1	3
" " " 101 to 200.....	3	1	7	3
" " " 201 to 300.....	1	5	2	3
" " " 300 or over.....	2	1	2	4

This table shows a rapid increase in number of sheep during the last three years. This indicates more interest than there really is. The owner of a large band of sheep who lived near Cody bought a farm on this project and keeps his sheep on this farm when they are not out on the range. A year ago there was a decided interest in running sheep on the farm the year round and about one dozen men, most of them with the assistance

## Shoshone--Annual Report (Continued).

of the agriculturist, bought good sized bands of sheep for this purpose; but results were unsatisfactory and a large majority of these sheep have been or will be shipped. However, most of these men are retaining small bands and apparently most of those who have kept small bands on their farms throughout the year are fairly well satisfied, and it is possible that this practice will become more common. Assistance was given in the importation of one band of about 400 head and practically all of the shipping was done cooperatively with the assistance of the agriculturist.

Breeds and breeding.--Cotswold, Hampshire and Rambouillet rams were used. A few were pure bred but most were only high grade. Practically all ewes born off the project are high grade Merino or Rambouillet, having been bred for the range. Most of the ewes which were on the farms were Cotswold or Hampshire cross. A very large majority of the sheep on the project are ewes which were bought off of the range after their teeth were too badly worn for them to do well on the range. The practice in breeding was to turn the rams in with the ewes at breeding time. Most of the rams and ewes are fed well for a short time before breeding. The lambing was at a time which interfered with farm work and this was unsatisfactory. One of the greatest needs is that such shelter should be provided that the lambing could be satisfactorily done ahead of the spring work.

Feeds and feeding.--The only project sheep sent to the forest reserve was a band which belongs to an old time sheep man who recently bought a project farm. The forest reserve is heavily stocked with sheep by men who have established rights, so project farmers have been unable to get on. Three men tried to pasture the range adjoining the project during the summer but because of the drought the feed was so poor that the loss of ewes and lambs was very serious. Most of the sheep were pastured on alfalfa on the farm during the summer but the loss from bloat was considerable. The most successful plan was to leave the sheep on the alfalfa night and day and have water where they could get it easily and quickly. However, there was some loss with this method and some men did not seem to be able to provide such conditions at all times. Predatory animals bothered when sheep were left out at night far from the house. The ewes pastured grain and alfalfa stubble and were fed some hay during the winter and were given some grain at lambing time. A few were fed dried beet pulp at lambing time with excellent results. Three carloads of lambs, after being fed alfalfa hay for some time were shipped in the late winter. They just about paid for their feed. About a carload of lambs were started on feed this winter by the Great Western Sugar Company and were doing well at the close of the year.

## Shoshone--Annual Report (Continued).

Equipment.--In three large barns which were built this year, provision was made for sheep and on other farms improvement was made in equipment. Some assistance was given by the agriculturist in planning this construction.

Diseases, pests and minor ailments.--The loss from bloat on alfalfa pasture was serious and the loss from predatory animals was sufficient to make close watching necessary.

Production and marketing.--Nineteen cars of sheep were shipped from project stations this year, eleven of which were shipped cooperatively. Some of the sheep which were loaded at Ralston, belonged to men who live off the project, so it is not known just how many loads were shipped from the project in addition to those shipped through the agriculturist. Practically all of the sheep shipped were ewes which had been bought the year before and their lambs.

Practically all of the wool produced on the project, was handled cooperatively. After receiving several bids the owners decided to consign the load to Adams and Leland, of Boston. This firm graded the wool and reported 700 pounds fine staple, 19,650 pounds fine medium, 3500 pounds half-blood, 1975 pounds, three-eighths, 550 pounds quarter-blood, 92 pounds low quarter, 29 pounds fine black, 70 pounds medium black, 48 pounds tags and 19 pounds braid. The wool had not been sold at the close of the year.

Relationship to other industries.--Sheep on some farms consumed part or all of the waste from alfalfa, grain and beet crops and on a few farms a large part of the alfalfa crops was consumed by the sheep. Several farmers planned to use sheep to consume practically everything produced on the farm except the grain, beets and potatoes. The alfalfa was consumed as pasture during the summer and as hay during the winter, but with the methods used, this plan did not work out very well.

Cooperative features of the industry.--Practically all the wool and sheep marketed this year were marketed cooperatively. Each man listed the sheep which he wished to ship and when a carload was listed each man delivered his sheep at the stockyards, branded. The load was shipped in the name of one of the banks and each man's sheep sold separately. The returns came to the bank and the agriculturist figured the expense against each man's gross returns according to the weight of his sheep. The amount due each man was then deposited in the bank which handles his business and the deposit slip and statement of the weights and prices of his sheep mailed to him.

## Shoshone--Annual Report (Continued).

This not only saved for the producer the local buyers profits but enabled anyone who was interested to know just how the different kinds of stuff sold on the market.

The wool was listed with the agriculturist and, when it was found that there was enough for a carload, arrangements were made to store it in a warehouse at the track. As each man's wool was received each sack was weighed and marked. Buyers were sought and bids were received. Whenever a bid was received, all the owners were called by telephone to a meeting. Those present had authority to act. As the bids received were not acceptable, owners decided to consign the load to Adams and Leland of Boston. This firm graded the wool and offered all of the wool of any certain grade for sale as one lot, and account was kept of how much wool each owner had in each lot. The wool had not been sold at the close of the year.

Future of the industry.--In my opinion the sheep industry on this project will continue to grow. With proper shelter for early lambing and with proper arrangements for summer pasture, the care of sheep does not seriously interfere with the care of crops. They can pasture ditch banks and any waste land in summer and consume the by-products of crops during the winter. However, I hardly think that they will consume all of the alfalfa on many farms. Practically all of the flocks will be rather small. The loss from bloat in small flocks has been very light. A lower price on woven wire would help considerably.

THE SWINE INDUSTRY.

Status of the industry.--A few carloads of hogs were fed out during the spring but practically all of this year's pigs were sold or will be sold as stockers. Hogs were kept primarily to save shattered grain in the grain stubble. The sentiment was very favorable to hogs for this purpose but they were not favorably considered as a means of marketing alfalfa or marketable grains so there was a decided decrease in number.

Swine population.--The Reclamation Service census which is taken in November of each year, gives the number of hogs on the project and the number of herds of different sizes as follows:

## Shoshone--Annual Report (Continued).

	1916	1917	1918	1919
Number of hogs reported.....	3369	3078	3380	2377
Average number per farm.....	5.48	5.01	6.42	3.77
Number of farmers reporting 1 to 10	161	196	40	20
"    "    "    "    11 to 20	32	33	32	35
"    "    "    "    21 to 50	27	16	18	13
"    "    "    "    41 to 100	9	18	15	5
"    "    "    "    101 to 200	3	1	2	0

The above table shows a decrease in the total number of hogs on the project and in the number of large herds and a very decided increase in the number of small herds. There were no importations and no exportations except to the market and to corn belt feed lots. A great deal of assistance was given by the agriculturist in the marketing.

Breeds and breeding.--Practically all of the hogs are of the Duroc-Jersey breed, but there are a few Poland Chinas and Hampshires. A few of each breed are registered and practically all of them are pure bred or high grades. On a great majority of the farms the sows were bred only for spring litters, but on a few farms at least a portion of the sows were bred for fall litters. Where the sows were bred only for spring litters, gilts were usually used. Because of lack of proper shelter more of the pigs are farrowed in May than in March or April. There is a general need of the use of better sires and more careful selection of females. One of the cheapest means for improvement would be to give the pigs of each sow a distinctive mark, so that selection could be more accurately done.

Feeds and feeding.--Almost without exception hogs were run on alfalfa pasture during the summer and were fed alfalfa hay during the winter. Surplus skim milk and waste about the house which were not fed to poultry, were fed to hogs. Some hogs were fed very little else. Small pigs and sows while they were suckling pigs were nearly always fed some grain but the sows were seldom fed grain except while suckling pigs and larger shoats were fed little or no grain when on alfalfa pasture. The grain fed was usually wheat, mill feed or corn. As the price of wheat was unusually high, more mill feed and corn were fed than usual. After grain was thrashed, practically all hogs lived on shattered grain in the grain stubble. The hogs which were fattened for market, were finished on corn and what hay they would eat. Due to the very great difference between the price of fat hogs last spring and the price of stockers the fall before, a good profit was made on most of those which were fattened. Considerable attention was given to getting the hogs fed so as to ship to advantage. There so few hogs are raised, it is very important that shipping should be so organized that the farmer can dispose of his hogs when the time in his feeding operations comes that they are ready to go.

## Shoshone--Annual Report (Continued).

Equipment.--No equipment of consequence has been constructed, owing to the cost of lumber and labor. A plan of house adapted to local conditions has been worked out and is suggested to farmers as opportunity occurs.

Diseases.--There was very little disease. One one farm all sows farrowed hairless pigs. The treatment advocated by the Montana and Wisconsin Experimental stations was suggested for the future. On a few farms where pigs appeared unthrifty, the santonin treatment for worms was suggested for a few of the less thrifty, as a trial. No worms were reported found.

Production and marketing.--Twenty-three carloads of hogs were shipped from the project during the year, of which seven carloads of fat hogs and four carloads of stock hogs were shipped cooperatively. The local butcher buys a good many fat and stock hogs. Some of these he kills and some he ships. One of the farmers sold two cars of stock hogs to a feeder in his home town in Nebraska and as he could pay more than the agriculturist had been able to obtain, he was assisted by the agriculturist in obtaining the two loads. Two outside buyers came to the project during the fall and with the assistance of this office obtained several loads of stock hogs. The farmers were assisted in setting their prices and so avoided discrimination as so frequently occurs when the buyers deal individually with each farmer.

Relationship to other industries.--There has been no relationship between swine production and other live stock industries except that hogs were fed some skim milk. They pastured some alfalfa, ate some alfalfa hay, and were fed some cull potatoes, but much the most important relationship was with the grain crop, in saving the shattered grain in the stubble.

Cooperative features of the industry.--The only co-operative feature of the industry was the cooperative marketing, the same plan being followed as already outlined under the sheep and beef industries.

The four carloads of stock hogs which were shipped cooperatively were sold in the spring. Bids were received from Nebraska feeders and these feeders deposited their money in one of the Powell banks. Then the hogs were received and shipped by the agriculturist in the name of the buyer. No stock hogs were shipped cooperatively to outside buyers during the latter part of the year because with the long delays in obtaining cars, a decided rise or fall in prices was easily possible and this might cause either the farmers or the buyers to fail in their agreement and cause trouble.

## Shoshone--Annual Report (Continued).

However, practically all of the stock hogs were sold to buyers who came to the project to receive the hogs.

Future development of the industry.--In my opinion the swine industry will always be an important industry on this project. The farmers will always raise some grain in seeding back to alfalfa. Hogs will be used to harvest shattered grain in the stubble and when relative prices of grain and hogs favor feeding, the hogs will be finished for market. When these prices do not favor feeding they will be sold as feeders into the corn belt. A light hog crop is expected for the coming year because the farmers are expecting high prices for grain and considerable marketable grain must be fed even in producing feeders. It would help the industry a great deal if woven wire did not cost so much.

Numerical Summary.

Farm visits.....	191
Office calls.....	1515
Other conferences.....	427
Letters written.....	538
Newspaper articles.....	28
Meetings attended.....	19
Attendance at meetings.....	261
Lectures at meetings.....	4
Herds tested.....	20
Cows tested.....	76
Samples of milk or cream tested.....	14
Cooperative demonstrations with cattle and hogs started.....	none
Herds inoculated.....	13
Cattle inoculated.....	205

-----0000000-----



**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

APR 24 1920

卷之九

卷之九

卷之九

卷之九

卷之九

卷之九

卷之九



W E E K L Y B U L L E T I N

Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

April 24, 1920.

No. 17

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the week ending April 17, the following temperatures were recorded: maximum 101, minimum 41, and greatest daily range 42. No precipitation was recorded.

Corn and milo on the rotation plats were cultivated. Weeds were mowed from the low land at the south end of A3, B3, and E3; weeds were also mowed and burned from the Johnson grass fields ABC-7.

Hand labor was used for thinning corn; weeding pomegranates and roads; chopping Johnson grass from rotation plats; irrigating, mowing and cultivating grounds; and painting the farm residence.

Demonstrations on Reclamation Projects.

Field Notes.

Huntley.

During the week ending April 17, seven conferences were held, ten visits to farms were made and twenty-two requests for assistance received from all sources.

Three demonstrations of blackleg vaccination were made, at which sixteen calves were treated.

There was a conference with Dr. Plank, Veterinary Inspector of the Bureau of Animal Industry, regarding the time of retesting herds for the accredited list.

Work on milk records occupied the remainder of the week.

## Newlands.

During the week ending April 17, there were received twenty-seven calls for assistance and six visits were made to farms in response to calls.

Considerable time has been devoted the past week to regular monthly herd testing. Four herds, consisting of about ninety cows, were tested. Some assistance was given in the selection of dairy cattle. The price of good dairy cattle is gradually advancing, and the maximum price for good cows has advanced from \$150. to \$175. Some trouble is being experienced on account of bloat in cattle. This trouble is experienced every spring and fall and, through a lack of caution on the part of the owners, the loss is always large. During the past week this office was called upon to assist in a stubborn case of bloat. Some relief was had by mechanical means, such as elevating the forequarters, pulling out the tongue and putting gags in the mouth and forcing the animals to belch. However, the gas continued to form and a drench consisting of two ounces of aromatic spirits of ammonia and one ounce of turpentine in one quart of water was resorted to. Ten minutes later the animal was practically back to normal with no bad after effects. When the life of an animal is threatened by bloat, and puncturing the rumen does not appear to be necessary, a drench of the kind mentioned may be expected to give very satisfactory results.

## Shoshone.

During the week ending April 17, two farm visits were made, seventeen office calls received, two other conferences held, two milk samples tested and two newspaper articles were written.

One farmer who has lost several pigs from thumps was advised regarding a treatment and an article was written for the local newspaper regarding the prevent and treatment for this trouble.

Attempts have been made to ship cattle, but due to the strikes the railroads will not accept them.

Final returns have been received on the carload of wool consigned last season to Adams and Leland, of Boston. The net returns of the 26,559 pounds weighed into the car here, were \$13,243.11, or an average of slightly less than 50 cents a pound. Prices varied from 43 to 55 cents a pound for the wool belonging to the different farmers. This price exceeds by \$930. the highest bidder of the six carlot buyers who bid on the wool after it was brought into the warehouse.

## Shoshone (Continued).

All of the wool was graded by the commission firm and all of the wool of each market class sold in one lot, each owner being given credit for the number of pounds he had of each class. The total weight of wool in each class and the prices at which sold on the market are as follows: Fine staple, 700# - 62¢; half staple, 3500# - 59¢; fine and medium fine, 19650# - 57¢; three-eighths, 1975# - 45¢; quarter, 550# - 45¢; fine black, 29# - 42½¢; medium black, 70# - 30½¢; low quarter, 92# - 20¢; braid, 19# - 20¢; tags, 48# - 15¢; pelts, 9# - 10¢.

The state poultry man visited the project and conferred with the agriculturist regarding the advisability and methods of organizing a state marketing association. The plan is to identify each individual's eggs with a number and make all shipments in the name of the association.

Mr. John Watt stopped over on his way from Yakima to Belle Fourche to discuss methods of carrying on demonstration work.

Some of the farmers on this project have been discussing the organization of a cooperative buying and selling association. A meeting was held this week in this office but the attendance was so small that no action was taken and another meeting was called for a later date.

-----000000-----



9  
09 W



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

MAY 1 1920



W E E K L Y B U L L E T I N

Of the Offices of  
WESTFRN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

May 1, 1920.

No. 18

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the week ending April 24, the following meteorological data were recorded: Maximum temperature 93; minimum 43; greatest daily range 38, and precipitation, trace.

Oats were harvested for hay from A5-2, 5; A6-6, 7, 9 and 11; B4-19; B5-7, and oat pasture on D5. Fields C5 and F3 were disked to get rid of Johnson grass. Weeds in the pasture on D4 and D5 were mowed.

Gravel was hauled and used to re-surface the roads through the farm grounds.

Hand labor was engaged in weeding farm roads, trimming ends of rotation plats planted to sorghum, Sudan grass and milo, weeding the garden; repairing machinery, and painting the farm residence.

Newlands.

During the two weeks ending April 24, detailed work was performed as follows:

Pigs to be used in the pasture experiment were dipped for extermination of lice. Hog houses were constructed between plats C-6 and 7, and between C-7 and 8, and these were connected to the water system.

Alfalfa roots were removed from the potato ground H-8, 9 and 10. The plats were then leveled, furrowed and irrigated previous to planting.

Barley was seeded in Plats B-7, 8, 11 to 22, inclusive, and as soon as the barley began to come up, plats 11 to 22 were seeded to alfalfa. Alfalfa was also drilled in D-1 and 5; F-4 and 16; and H-14 and 15.

Plats Y-10 to 18 were leveled and the plats west of the farm buildings were leveled. Two men and teams worked a day and a half cleaning the flow sand from C drain.

The following plats were irrigated: C-2, 3, 4, 5, 6, 7, 8 and 9; A-3; B-7 and 8 and 11 to 22; D-1 and 4; E-1 and 2; H-11 to 15 inclusive; G-1 to 5, inclusive; F-15, 16, 3, 4.

Demonstrations on Reclamation Projects.Field Notes.

## Belle Fourche.

Mr. John E. Watt, formerly Agriculturist on the Yakima Reclamation Project, is now stationed on the Belle Fourche Project, succeeding Mr. E. H. Aicher. Mr. Watt arrived at Belle Fourche April 20.

On account of muddy roads, making automobile travel impossible, the greater part of the week ending May 1 was spent at the office and at the Experiment Farm. Two days were spent at Rapid City at the Western South Dakota Extension Conference. Several members of the State Extension Staff were present, as well as the county agents from the western part of the state.

## Huntley.

During the week ending April 24, there were 11 conferences, and 13 requests for assistance were received. Rain and snow nearly every day of the week kept the roads unfit for travel and prevented field work by farmers.

On March 20 and 21 a convention of the Montana Live Stock Growers' Association was attended at Billings. The annual sale of the Montana Hereford Breeders' Association took place on the 21st. More than a score of breeders offered animals for sale and 94, including male and female, were sold at an average price of \$250. The average last year was \$450. The bull, "Panama 52" bred by A. B. Cook, Townsend, Montana, and consigned by the Montana State College sold for \$1050, the highest price of the sale. Several other male entries brought from \$600, to \$800.

## Shoshone.

During the week ending April 24, one farm visit was made, twenty-eight office calls were received, four other conferences held, four milk samples tested and one newspaper article was written.

Arrangements were made for the cooperative shipment of a car of cattle.

Arrangements are being made by the Shoshone Live Stock Association to receive cattle about May 1 to go out on the range adjoining the project. This herd will

## Shoshone (Continued).

be taken to the forest reserve about June 1. These cattle are getting onto the range later than usual because the grass was eaten short last fall and the spring has been so cool that the grass has grown slowly. A newspaper article was written regarding the proposed time and method of receiving the cattle.

A start has been made in arranging for the disposal of project wool for this season.

Buyers have not yet been found for project ewes and lambs which are for sale. It is presumed that range men who expect to buy are waiting for the grass to start growing before buying. Hay is getting very scarce.

Farmers who shipped eggs through the Powell Co-operative Association received 38 cents per dozen this week.

## Newlands.

During the week ending April 24 there were received 25 calls for assistance and six visits were made to farms in response to calls. A considerable part of the week was devoted to herd testing. With the increasing price of cattle and the cost of feeding, much stimulus has been given to herd testing. Dairymen that have not heretofore been especially interested in testing their cattle have applied for regular monthly tests. Three herds were tested during the past week in addition to a number of tests of skim milk and cream samples. The regular monthly official test on Mr. Long's registered herd of Holstein cattle started on Friday of this week, the work being supervised by this office. Seventeen cows were on official test. Most of them were milked three times a day. Because of the ruling of the Holstein-Friesian Association, the regular official tester of any herd must be replaced at intervals. It has fallen upon this office to alternate with the regular tester on account of the scarcity of official testers in this state.

A trip was made to one farm for the purpose of closing an old wound in a cow's teat. Invariably lacerations in cows' teats come during the lactation period and very often when they are just fresh. At this time they very often go through wire fences to get to their calves. When lacerations occur during this period, it is practically impossible to repair the wound so that it will not leak under ordinary farm conditions. It has been the writer's practice to defer the closing of all wounds through the teat walls into the cavity until the dry period. At this time the scar tissue can be cut away and the wound closed up and the milk flow will not interfere with

## Newlands (Continued).

the healing operations. A great many cases of side openings in teats have been operated on during the dry period with success, while operations performed during the lactation period have invariably been failures.

For the week ending May 1 there were received thirty calls for assistance and visits were made to three farms. Communications with farmers were considerably interfered with on account of inability to get telephone service during the greater part of the week. There was a reported case of stock poisoning on one of the dairy farms. Seven cattle were turned out along the ditch banks on raw land and after two hours they were found to be suffering with convulsions. These cattle all finally recovered and the case was reported to the office of range management at the State University and the man in charge made a visit to the pasture. After a careful survey of the vegetation none of the common poisonous plants was recognized. Some plants however, about which there were doubts, were taken back to the University for classification. No report has as yet been received.

Two cases of inefficient separators have come to notice during the past week. The separators delivered skim milk testing .2 per cent. and 3 per cent. whereas a test of .01 percent. to .015 per cent. is a good average run of skim milk from good running separators. A great many instances of inefficient separators have come to the attention of this office, and invariably the machines in question have not been of the standard makes. The trouble is generally with worn bearings which cause wobbling of the bowl.

The official test on Mr. Long's herd was finished the first part of the week. One hundred and eighty tests were run for this herd.

- - -ooOoo- - -

1  
09 W



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

MAY 8 1940



W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE

And

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

May 8, 1920.

No. 19

Huntley.

During the week ending May 1, the maximum temperature was 58, minimum 28, and precipitation .70 inch.

No field work has as yet been possible because of stormy weather. The precipitation during the past two months as well as during the preceding four months has been unusually high, amounting during the six months from November 1 to April 30, to 8.19 inches, while the normal for this period is 3.93 inches. This condition has been very severe on range stock. The amount of feed produced in the State last season was very short and as a rule stock came through the winter in poor condition and late storms have caused serious losses. On the Huntley project the amount of feed produced was much more than was required for use locally, and large amounts of hay were shipped out early in the season, because of the unusually long feeding season there is at present a shortage of hay and small amounts of hay are being shipped in at high prices.

Winter wheat appears to be in good condition locally while some loss from winter-killing is reported from other parts of the State.

The acreage of sugar-beets will probably amount to less than 2000 on the Huntley project, and will be effected somewhat by the late season which interferes with plowing and the proper preparation of the soil for this crop.

Losses of alfalfa stands from winter-killing are reported to be rather serious on most parts of the Huntley project. This damage occurred usually in low, poorly drained fields, which held the run-off water during winter thaws and later were frozen over.

Experiment with Corn and Sunflower Silage.--An experiment to determine the relative value of corn and sunflower silage for dairy cattle has just been completed at the experiment farm. In this experiment two groups of four cows each were fed for alternate periods of 30 days on corn and

## Huntley (Continued).

sunflowers silage and in addition were fed a 2 per cent. ration of alfalfa hay. No grain or other feed was given. The corn silage used was of excellent quality and was made from corn that was fairly well matured when harvested. The sunflowers were harvested when about one-fourth in bloom, and the silage made from this crop appeared to be in good, fresh condition when removed from the silo. The two groups of cows used in this test were selected as near uniform as possible as regards milk production, weight, length of lactation period, etc., and at the beginning of the test on January 1, were about equal in milk production, the total milk per day from Group A being 105 pounds, and from Group B, 109 pounds. Both groups of cows were fed on sunflower silage during the month of January and the first nine days of February, while Group B was fed corn silage from January 1 to February 9, inclusive. Ten days were allowed at the beginning of the test and also between each of the periods of making the change of feeds and the first period of thirty days was considered to be from January 11 to February 9, inclusive. A preliminary statement of the results showing the amount of silage eaten and the milk produced during the three periods of the test, is given in the following table:

	Group A	Group B
<u>Period Jan. 11 to Feb. 9, incl. (30 days)</u>		
Sunflowers, average per cow per day, pounds	29.5	
Corn, average per cow per day, do		32.4
Average amount milk per group per day, do	88.8	117.7
<u>Period Feb. 20 to Mar. 20, incl. (30 days)</u>		
Sunflowers, average per cow per day, pounds		9.5
Corn, average per cow per day, do	32.1	
Average amount milk per group per day, do	87.2	72.3
<u>Period March 31 to April 29, incl. (30 days)</u>		
Sunflowers, average per cow per day, pounds	15.6	
Corn, average per cow per day, do		29.5
Average amount milk per group per day, do	57.1	86.5

The results indicate that sunflower silage was less palatable than corn silage and that the cows in both groups would eat only small amounts of the sunflower silage after having been fed on corn silage and that the milk production decreased during the periods when the cows were fed on sunflowers. It will be noted that during the first period the cows in Group A, which had been fed on sunflowers during the month of December ate nearly as much sunflowers as group B ate corn, although the milk production of Group A dropped from 105 pounds per day to an average of 88.8 pounds during the period while group B gained in milk production from 109 pounds to an average of 117.7 pounds for the period. This

## Huntley (Continued)/

would appear to indicate that even where sunflowers are eaten by stock they contain less feeding value than corn silage.

San Antonio.

During the week ending May 1, the maximum temperature was 89, minimum 40, and greatest daily range 34. A total precipitation of .57 inch was recorded. This precipitation came in two characteristic local showers. In San Antonio and north of the farm a greater amount of rainfall was recorded, while east, south, and west only very light showers occurred. Not enough moisture fell at the experiment farm to permit the planting of cotton.

Ten varieties of grain sorghum, four of sorgo, and two of broomcorn, were planted in field C3. Plots A4-14 and 18 were replanted to Sumac sorghum, no stand having been obtained from the original planting. A growth of field peas for green manure was turned under on these plots March 3 and 11, respectively, and sorghum seeded in 8-inch drills on March 13.

The hauling of oats from rotation plots harvested for hay was completed and the following yields of field-cured hay recorded:

Plat Number	Yield per Plat, Pounds.	Yield per Acre, Tons.
A5-2	1210	2.42
-5	1520	3.04
A6-6 #	1130	2.26
-7 #	1115	2.23
-9 #	1235	2.47
-11 #	1225	2.45
B4-19	1500	3.00
B5-7	1740	3.48
Average	1334	2.67

# Oats on these plots were in the windrow during .51 inch rain and when finally hauled were more thoroughly cured than the hay from the other four plots.

All corn, milo, and sorghum was cultivated. Fallow and cotton plots on the rotation fields were harrowed.

Hand labor was kept busy chopping Johnson and Bermuda grass from rotation plots and farm roads; repairing machinery; cultivating, mowing and irrigating grounds and killing rats.

Demonstrations on Reclamation Projects.Field Notes.

## Huntley.

During the week ending May 1, eleven visits were made, 17 requests for assistance received and 7 office conferences held.

The owners of 9 herds were visited and milk samples for the month of April collected. Two dairymen were assisted in learning to test milk, one in the purchase of a registered Hereford bull and two were supplied with information relative to permanent pastures. Blackleg vaccination was demonstrated on two farms when twenty calves were treated. The monthly report on production of project dairy cows was prepared for the "Yellowstone".

During the week two dairymen signed up for tongue lock silos to be erected during the summer.

## Uncompahgre.

The State Supervisor of Boys' and Girls' Clubs was in Montrose and Delta Counties the first part of the week ending May 8, and two days were spent in connection with club work with the county agent. Then enrollment in clubs will not be large this year, but strong efforts will be made to secure a good percentage of completed projects. There will be about twenty boys or girls in pig clubs.

Mr. Jordan, of the State Dairy Commissioner's Office, visited the project during the week in the interest of a cow testing association. A number of dairymen were found who are interested in an association and there are seven or eight breeders of pure bred stock who are interested in doing official or semi-official work. A meeting will be held in Denver on the 20th of May to arrange for this latter work, at which this office has been requested to represent the breeders of the Western Slope.

Several farm visits have been made in the interest of the wool pool. The wool market is unsettled and there is a tendency on the part of growers to sell rather than take a chance on a falling market. Only a little wool has as yet been received, but there is still a great deal of shearing to be done.

Some interest is being manifested in an organization of a stallion club near Delta. Time will be taken next week to determine if the interest is sufficient to warrant an organization.

9  
69W



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

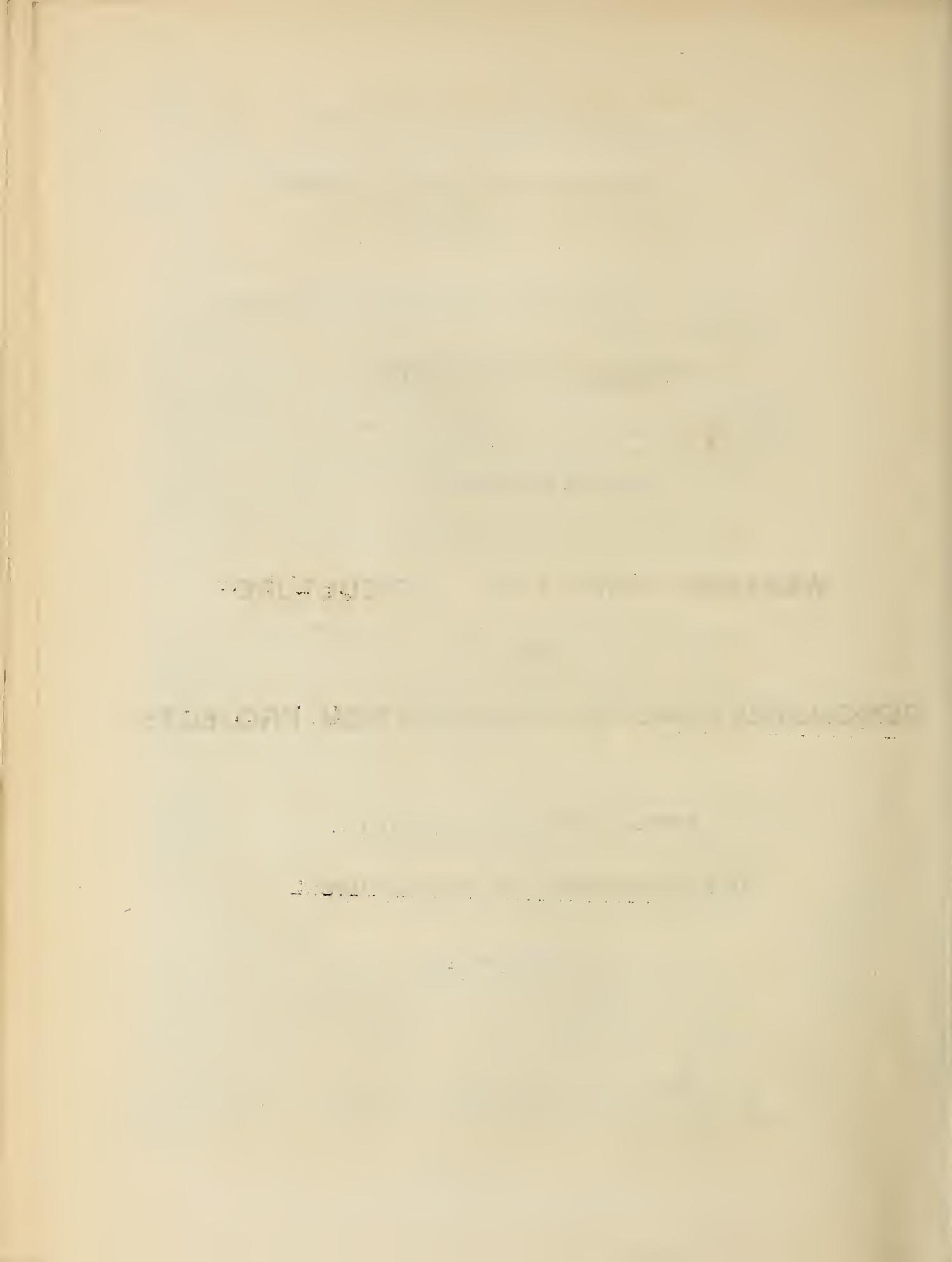
AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

MAY 15 1920



W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII. May 15, 1920.

No. 20

Western Irrigation Agriculture.

Field Notes.

Belle Fourche.

The following is a portion of a letter received from Mr. Aune, under date of May 14:

"The weather has been such that I have had very little to report regarding work. We had 24 days of rain in April and twelve this month; April showing 2.59 inches, and May, up to now, 7.05 inches. On the 10th four inches fell in a few hours followed by one and one-half inches on the 11th and 12th. The North canal has been washed out in several places, and train service is at a standstill on account of washouts of track and bridges on both the Burlington and Northwestern roads.

Have not been able to do any seeding on the irrigated land, but it would not have done us any good if we had, as everything would have had to be reseeded after this last rain.

The season is so late now that I doubt very much if more than a third to a half of the project cultivated area can be cropped this year.

We will hold the boys' camp during the week beginning June 28, and the Farm Picnic on July 17."

Huntley.

During the week ending May 8, the maximum temperature was 67, minimum 29, and precipitation .56 inch.

The weather continued cold and stormy and no field work has as yet been possible. A few project farmers on the sandy river soils have done a small amount of seeding, although in general very little work has been accomplished in the fields.

A shipment of about 2400 elm, ash, poplar, willows

## Huntley (Continued).

and various shrubs, was received from the Mandan, North Dakota, Station, for planting in the project park, adjacent to the experiment farm. This will complete the planting of about five acres of trees, a part of which was planted in 1917.

## Newlands.

During the two weeks ending May 8, the following plats were irrigated: C-2 to 13; D-1 to 8 (except 4); E-1 to 8 (except 3 and 4); F-2 to 16 (except 13); G-1 to 5; H-1 to 25; and a part of A-1, 2 and 3.

Plats H-1 to 4 were re leveled into 5 plats; C-1 plowed and leveled for garden; Y-1 to 9 plowed and leveled for corn; D-4, E-5, 6 and F-1 and 5 leveled for silage corn.

Barley was seeded April 29 on Plats Y-10 to 18, and mangels were seeded April 30 on Plats D-8, E-5 and 6. Potatoes were planted May 4 and 5 on plats H-8, 9 and 10 to include the following experiments:

1. Distance of planting
2. Whole vs. cut seed
3. Selected vs. unselected seed from bin
4. Small vs. large seed
5. Varieties, including Irish Cobbler, Earliest of All, Netted Burbank, Producer, Early Freeman, American Wonder, Colorado Pearl, Blue Victor, Scotch Rose and Burbank.

## San Antonie.

The following meteorological data were recorded during the week ending May 8: Maximum temperature 94, minimum 60, greatest daily range 33, and precipitation .48 inch. Cloudy, sultry weather has prevailed.

The small showers of the past two weeks have been sufficient to keep corn, milo, sorghum, and Sudan grass from suffering, but not sufficient to put the fields in good condition for cotton planting.

Oats were harvested for grain from field B-C3 and rotation plats A6-6, 12 and 16.

Rotation plats A4-9, A5-6, 11, 13, 15, 17; A6-3; B5-4; and B6-5, 7, 13, which were becoming badly infested with weeds, were disked.

Harvesting of field pea varieties on D3 was begun. Most varieties have a good set of pods but they are not well filled, due to lack of moisture at time of fruiting.

## San Antonio (Continued).

Small palms on the grounds and in orchard E3 were manured. Two pistillate date palms (Phoenix dactylifera) in orchard E3 have opened four and five flower clusters, respectively, and were pollinated with flowers from stamineate trees in the same orchard. To date three stamineate trees have opened flowers.

Hand labor was used to fence Sudan grass pasture on C5, thin corn on B4 in the row-spacing test, harvest field pea varieties and oats, and chop Johnson grass from rotation fields.

During the week ending May 15, the maximum temperature was 94, minimum 61, and greatest daily range 29. Precipitation was recorded three days as follows: May 13, 1.79 inches; May 14, .34 inch; May 15, .83 inch; total 2.96 inches.

Cotton was planted on rotation plats May 11 and 12. Three acres on C5 were planted to Lone Star cotton May 12 and 13. This field is intended for study of cultural methods. Because of the low moisture content of the seed bed all cotton was planted at a depth of about two inches, using the 2 by 4 inch shoes to shove the dry clods from the surface. The heavy rains have packed this soil very tightly, and it is doubtful if the young plants will be able to push through successfully.

Oats were harvested for grain from rotation plats A5-8, 12 and 16; and A6-15 and B5-8. Grain varieties on field B4 were harvested. Harvesting of field pea varieties, field D3, was stopped by the rains. The varieties harvested were badly scattered and mixed by the very strong wind which preceded the rain and it will not be possible to obtain comparative yields.

Corn, milo and sorghum were cultivated.

## Yuma.

With the advent of warmer weather crops in general on the Yuma project are looking much better. Cotton especially has suffered this year because of the late spring, cold nights and periods of high winds. Many cases of reseeding have been reported and in some cases reseeding the second time was necessary. During the early seedling stage much of the cotton was affected by "sore shin" or a stem rot. The stands of cotton all over the project are very much inferior to those secured last year. Chopping and thinning is now in full swing. Prices for labor are ranging around 50 to 55 cents an hour.

## Yuma (Continued).

New roller gins are being erected at Yuma and Somerton to handle the long staple crop this fall. The prospective high prices to be received for cotton this year has also encouraged the clearing and leveling of much new ground.

Construction work on the Yuma Mesa is to begin with the acceptance of bids covering the excavation of main canal and laterals.

Crops growing on the experiment farm are in fairly good condition. Only a fair stand has been obtained on the cotton plats. Chopping and thinning these plats will be completed within a few days.

Thrashing the barley and wheat varieties will be finished this coming week. Lands for grain sorghum are being prepared for planting.

Maximum temperature for the week was 105, minimum 54, and precipitation 0.0.

Miscellaneous.

Mr. Roland McKee, of the Forage Crop Office, was a station visitor from May 8 to 10.

Demonstrations on Reclamation Projects.Field Notes.

## Huntley.

During the week ending May 8, there were 7 office conferences, and 8 farms were visited.

Mr. Van Evera, irrigation demonstrator, stopped off on his way to the Lower Yellowstone Project, and a part of two days were used in assisting him to become familiar with the irrigation and drainage methods in use on the Huntley project.

Very little field work has been done yet by farmers, on account of rains. With no more rain some of the heavier and lower-lying soil will scarcely become dry enough to plow for a week. It has become evident that considerable alfalfa has been killed. Several fields will have to be plowed up. The losses are no doubt due to a layer of ice covering the fields for too long a time during the early spring.

Besides the regular work related to dairying, 6 owners were advised concerning sick or injured animals, and one demonstration of blackleg vaccination was made. Also, a careful study of the "Tongue Lok" silo was made with the assistance of the firm, John Rodgers, Inc., that sells them.

## Huntley (Continued).

During the week ending May 15, there were 7 office conferences, 13 farm visits made and 17 requests for assistance were received.

Mr. Hugh Sutton and Mr. Coulson G. Wright, on their way to northern Montana projects, stopped off three days to study irrigation and drainage.

Assistance was given to Dr. Neil Plank, veterinarian of the Bureau of Animal Industry, in locating for tuberculin testing, all dairy herds on which government bulls are used. It is planned to test for all owners of project cattle, who desire it at this time.

The remainder of the week was taken up with the regular line of stock work.

## Newlands.

During the week ending May 8, there were received 31 calls for assistance and ten visits were made to farms. Mr. Cooley visited the project on May 3, 4 and 5, and went over the work that has been carried on on the project.

During the past week two new cases of plant poisoning have been reported. A visit was made to the district from which all the plant poisoning cases have been reported. The only suspicious plant found was one resembling very closely death camas or lobelia. This plant, however, had a long, fleshy tap root with the top resembling the bulb of a wild onion. The plants had not flowered so that it was more difficult to distinguish. However, one of the specimens was transplanted to a flower pot and will be allowed to mature in order that a better means of classification may be afforded. In the four cases of poisoning thus far reported no animals have died, but all animals have been violently sick for several hours.

During the week ending May 15, there were received 23 calls for assistance and five visits were made to farms. One additional case of plant poisoning was reported the past week with the usual symptoms. This case was reported from the same district in which the previous cases were reported.

A visit was made to one farm to examine into the sudden death of a sow. In this case the sow showed some signs of distress together with some vomiting and diarrhoea. This was late in the evening. The following morning the sow was found dead and upon examination a severe hemorrhage was found throughout the intestines. About thirty-five little pigs, together with four other sows, although handled in just the same manner, were not affected. It is very evident that this sow died of enteritis. This bunch of hogs was given an extra large feed of milk while at the same time they were grazing new alfalfa. Several cases

## Newlands (Continued).

similar to this have come to the writer's attention in the past three or four years. The overfeeding with skim milk, together with the green alfalfa was no doubt responsible for the trouble.

## Shoshone.

During the week ending May 1, four farm visits were made, 46 office calls were received, 13 other conferences held and 2 newspaper articles were written.

One car of cattle was shipped, 18 men cooperating in the shipment.

Mr. Lane, the state leader of county agents, called regarding putting a county agent in this county. He found considerable interest in this county, but the state has no funds until next January and the interest did not appear sufficient to justify an attempt to get the county commissioners to provide all of the funds for an agent until that time.

The county agent who has his headquarters in Billings, Montana, wrote asking for suggestions regarding pooling wool. A large majority of the sheep here are for sale, but, if they are not sold and a pool is formed in Billings, it is planned to ship the wool to Billings and put it into the pool there.

The shipping of eggs by the farmers has been increasing, and the farmers continue to profit about \$2. per case on the average by shipping.

The Powell Breeding Association has decided to let the bank, which has a mortgage on the two Percheron stallions, take them, as the stallions could not be sold for enough to pay the mortgage and the officers of the association see no hope of the association paying out or even breaking even. This is another illustration of the difficulty of a board of directors handling business properly where the business to be handled is of relatively small personal significance to them. No director will act on anything important without the presence of the other directors and when the farmers are busy with their personal affairs it is very difficult to get them together. Furthermore, when the business is of small personal significance to a man he will not take a stand on anything that may lose a friend or might cause a slight loss in his personal business.

One of the leading dairymen here bought a second hand silo from a man who had quit dairying. He was advised regarding the method of moving it and of seeding sunflowers for silage.

## Shoshone (Continued).

During the week ending May 8, 13 farm visits were made, 29 office calls were received and 5 other conferences were held. One newspaper article was written and 25 cattle were inoculated against blackleg.

An attempt is being made to work out a list of suggestions as to methods of irrigation which would be valuable to men who have filed on the new land and several men who have successfully irrigated new land were visited for suggestions in making up this list.

One man was visited and plans suggested for barn, granary and hog house construction.

The first shearing for the season was done this week. The largest herd on the project was sheared and it had been planned for the crew to shear all of the sheep on the project, but weather turned off so cool that the shearing is being postponed.

A man who wants ewes to pasture on the mountains this summer was taken to see all of the sheep, but he has not yet made any purchases. A meeting of the nine men who are interested in selling was held in the office of the agriculturist to discuss prices.

Arrangements have been made to receive cattle Sunday and Monday which are to go to the forest reserve this summer. Two of the largest herds were received Saturday. All of these cattle under two years of age were inoculated against blackleg with aggressin. Insurance was taken on both of these herds, the value of the animals being assessed by the agriculturist. When the herder is paid 90 cents per head per month he stands two-thirds of the loss of all strays on the basis of the assessed value.

One of the farmers has fenced off 40 acres of alfalfa with woven wire and expects to buy a number of spring pigs to pasture this alfalfa this summer, feeding them about a 2 per cent. ration of mill feed. He expects to sell them about September 1 to corn belt feeders, who buy at that season, to "hog-down" corn.

## Sun River.

Mr. Hugh Sutton has been appointed for the 1920 irrigation season to assist the settlers on the Sun River project with their irrigation problems.

During the week ending May 15, 3 farms were visited on the Huntley Project and conferences were held with head officials on the project.

## Sun River (Continued).

With the object of obtaining all information possible regarding irrigation and general farm conditions, two half days were spent on the Huntley Experiment Farm, with Mr. Dan Hansen, studying the methods used and the results obtained with different methods of irrigation, etc.

Two days were spent in Ballantine with Mr. Wright and Mr. Green (Project Manager) studying the irrigation and drainage system.

One field trip was made to study soil conditions and the success farmers had in cropping heavy soils.

Saturday was spent at the office of the Reclamation Service, at Great Falls, securing maps and obtaining information regarding irrigation conditions on the project. It was decided that the proper place for headquarters would be at Fairfield, Montana, because the irrigation system is new and the best results could be accomplished in that section.

## Uncompahgre.

Only seven consignments of wool have been brought into the pool at Montrose as yet and none at Delta. The impression that the wool market is breaking has been spread among wool growers and there is a tendency to sell before the market goes lower.

Some time has been given to an attempt to organize a horse breeders' association for the purpose of purchasing a stallion. Outside of a few men who own a number of purebred or good grade mares, however, there seems to be but little interest in horse breeding and the organization will probably not be formed.

On Saturday eight pigs were distributed to pig club members at Olathe, members meeting at the home of the leader, and drawing lots for the pigs. The majority of the members are borrowing the money from banks to pay for the pigs. Purebred pigs that are eligible to registry are being provided at \$10. to \$15.

-----

**CORRECTION:** In the Weekly Bulletin for May 8, page 186, line 14, after the words "month of", the following should be inserted: "December and group A was continued on sunflower silage during the month of".

Miscellaneous.

In response to repeated requests for assistance from the settlers on the Lower Yellowstone, Sun River and Milk River Reclamation Projects, in Northern Montana, the services of three practical irrigators have been secured for a temporary period. These men will devote their entire time to assisting the farmers in establishing proper methods for getting irrigation water distributed over their farms and will be located as follows:

Mr. Rynier Van Evera, Lower Yellowstone Project, with headquarters at Savage, Montana;

Mr. Coulsen C. Wright, Milk River Project, with headquarters at Malta, Montana;

Mr. Hugh Sutton, Sun River Project, with headquarters at Fairview, Montana.

-----

During the week May 31 to June 5, a conference of the office of Demonstrations on Reclamation Projects will be held in Washington, D. C. The program contemplates a series of instructive talks and visits to various offices and laboratories of the Department where practical demonstrations will be given in the various subjects discussed. During the week visits will be made to the Beltsville Experiment Farm, and to Arlington Experiment Farm.

The following program has been arranged for the meeting:

PROGRAM

MONDAY, MAY 31.

8 A.M., Leave Washington for Beltsville, Md. Experiment Farm,  
T. E. Woodward Superintendent.  
Inspecting live stock work.

TUESDAY, JUNE 1.

9 A.M., Meeting in Room 32, West Wing, Agricultural Building.

"Organization and Policies of the Department of Agriculture", by Dr. Wm. A. Taylor, Chief, Bureau Plant Industry.

"The Establishment of Agricultural Industries Under Irrigation", by C. S. Scofield, Office of Western Irrigation Agriculture, Bureau of Plant Industry.

"Bee Culture, Care, and Diseases", by E. F. Phillips,  
Apiculturist, Bureau of Entomology.

1 P.M. Visit to the Laboratory of Plant Pathology, West Wing.  
Dr. Erwin F. Smith, Pathologist in Charge.

Visit to Laboratory of Dr. W. A. Orton, Pathologist,  
Bureau of Plant Industry. "Forage Crop Diseases  
and Their Control" by Dr. Orton.

WEDNESDAY, JUNE 2.

9 A.M. Visit to Cattle Food and Grain Investigation Laboratory,  
G. L. Bidwell, Chemist in Charge, Bureau of Chemistry.

Visit to Grain Dust Explosion Laboratory, Bureau of  
Chemistry. D. J. Price, Engineer in Charge.

Visit to Leather and Paper Laboratory, Bureau of Chemistry,  
E. P. Veitch, Chemist in Charge.

WEDNESDAY, JUNE 2 (continued)

1 P.M. in Room 32, West Wing, Agricultural Building.  
"Methods of Marketing and Shipping Farm Live Stock."  
By Mr. Turner Wright, Bureau of Markets.

"Marketing Dairy and Poultry Products."  
By Roy C. Potts, Bureau of Markets.

Visit to Motion Picture Laboratory, Bieber Building.  
F. W. Perkins, Division of Publications.

THURSDAY, JUNE 3.

9 A.M. Meeting in Room 32, West Wing.  
"Rural Credits and Insurance",  
W. N. Valgren, Office of Farm Management.

"Cooperative Buying and Selling Associations."  
C. B. Jesness, Bureau of Markets.

Visit to Operating Room for Collecting and Distributing  
Market Information, Bureau of Markets.

Visit to Cotton and Wool Standards Laboratory,  
Bureau of Markets.

1 P.M. Visit to Research Laboratories, Dairy Division, Bureau  
of Animal Industry.

In Room 32, West Wing. "Eradication of Tuberculosis in  
Farm Animals" by J. A. Kierman, Bureau Animal Industry

"Control and Eradication of Hog Cholera".  
J. P. White, Bureau of Animal Industry.

FRIDAY, JUNE 4.

9 A.M. "Animal Parasites and Their Control" at Laboratory of  
B. H. Ransom, Bureau of Animal Industry.

Visit to Biochemical Laboratories, Bureau Animal Industry;  
Dr. M. Dorset, in Charge.

Visiting Pathological Exhibits.  
"Contagious Abortion in Cattle."  
J. N. Buck, Bureau of Animal Industry.

FRIDAY, JUNE 4 (continued)

1 P.M., In Room 32, West Wing.

"Press Articles"

Harlan D. Smith, Chief, Office of Information.

"How to Keep in Touch With Department of Agriculture Literature". By J. E. Rockwell, Editor, Bureau of Plant Industry.

"Results of Farm Bureau Work in North and West." W. A. Lloyd, States Relations Service.

SATURDAY, JUNE 5.

9 A.M., Visit to Weather Bureau.

1 P.M. Assemble at Office of Horticultural Investigations, 220 Fourteenth Street, S.W., L. C. Corbett in Charge.

1:30 P.M. Visit Arlington Experiment Farm.

----000----



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUN 19 1920



W E E K L Y B U L L E T I N

Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

June 19, 1920.

No. 21

Western Irrigation Agriculture.

Field Notes.

Huntley.

During the week ending May 22, the maximum temperature was 83, minimum 35, and precipitation .07 inch.

The first field work of the season was done during the week, favorable conditions prevailing during the entire week. Seeding of small grains in the rotations, both on irrigated and dry land was completed, and good progress made in preparing land for seeding sugar beets and corn.

Alfalfa and pastures were slow to start and pastures were not in good condition for grazing until May 14, on which date dairy cattle were placed on pasture in a carrying-capacity test of three pasture mixtures in field L-III. The loss of alfalfa from winter-killing is becoming more noticeable as the season advances and is rather serious on most parts of the Huntley project.

The maximum temperature for the week ending June 5 was 73, minimum 32, and precipitation .19 inch.

Weather conditions permitted field work during the entire week and practically all of the spring seeding was completed. Local conditions have been rather unfavorable for starting crops and several project farmers are resorting to irrigation to germinate seeds. This condition was brought about through the necessity of working the soil while rather wet, and a consequent rapid drying out and with a lack of any rain since the crops were planted. The sugar beet crop is in especially poor condition through failure to obtain a stand. This condition exists mainly on the heavier soils of the valley which could not be seeded until late in the season. Light frosts occurred on the nights of June 1 and 3, which is the latest date of the last frost in spring since the station was established. The injury to crops was not serious.

Newlands.

Experiments with Pigs on Alfalfa and Sweet Clover.

Five pigs weighing 263 pounds were placed in alfalfa pasture on May 6, and another lot weighing 266 pounds was placed in a small sweet clover pasture. They were to be weighed weekly and to be fed a 2 per cent. ration of barley. During the first week the sweet clover lot gained 5 pounds and the alfalfa lot gained 28 pounds. During the second week the sweet clover lot gained 23 pounds and the alfalfa lot gained 25 pounds. Since the pigs were all moved from an alfalfa range at the beginning of the experiment, it is probable that those placed on the sweet clover required the period of the first week to become accustomed to the new pasture. The results of the first week are, therefore, omitted from the statement.

During the third week the sweet clover lot gained 12 pounds and the alfalfa lot gained 16 pounds. For the two weeks ending May 27 the alfalfa fed pigs gained 6 pounds more than those on sweet clover.

The results are given in detail in the following statement:

Number of pigs,	5	5
Initial weight, May 13, (lbs.)	271	291
Final weight May 27, (lbs.)	306	332
Total gain, (lbs.)	35	41
Daily gain, (lbs.)	2.5	2.9
Daily gain, (per cent.)	.87	.95
Barley fed, (lbs.)	82	89
Cost of barley @ $3\frac{1}{2}\%$ ,	2.87	3.2
Value of gain at 15¢,	5.25	6.15
Net return	\$2.38	\$3.03

On May 17 and 18, the following varieties of corn were planted in each of the seven plats Y-3 to 9, inclusive: Minnesota #13, from Portland Seed Co; Minnesota #13, from Gurney Seed & Nursery Co; Pride of the North; Oregon White Dent; Oregon Yellow Dent; and White Flint.

On May 20, the following varieties of alfalfa were planted in duplicate on H-1 and 2: Grimm; Chilean (heavy land); Chilean (dry land); Chilean (sandy land); Chilean (low wet); Peruvian, smooth; Peruvian, hairy; and Cossack.

On May 21 the following crops were planted in rows on plats H-3 and 4: milo; Sudan grass; Egyptian corn; Kafir corn; broom corn; feterita; lentils; spring vetch; sand vetch; yellow peas; San Louis peas; artichokes; sunflower; Silverhull buckwheat; Japanese buckwheat, and Flax.

## Newlands (Continued).

On May 21, small plats of alfalfa were planted and fertilized as follows:

Check,  
1½ pound sulphur  
Check  
3 pounds acid phosphate  
Check  
1½ pound sulphur  
Check  
3 pounds acid phosphate  
Check  
1 pound sulphur, 2 pounds acid phosphate  
Check.

Experiments to determine the effect of various treatments on the reclamation of the alkali soil of B-9 and 10 were continued as in 1919, except that corn was used as the indicator crop instead of barley. The treatments include the application of gypsum, sulphur, acid phosphate and manure in various quantities, and mixed in various proportions.

An excellent stand of beets was obtained in the rotation plats. These were irrigated after emerging, then hoed and thinned. All the alfalfa and grain fields on the farm were irrigated.

## San Antonio.

During the week ending May 22, the following meteorological data were recorded; maximum temperature 90, minimum 57, greatest daily range 28, precipitation .01 inch. Cloudy, damp forenoons and clear, warm afternoons prevailed throughout the week.

No field work was possible the first three days and the time was spent doing repair work on buildings, hauling gravel for roads and shop floor, chopping wood, pruning volunteer jujuba seedlings in orchard A1, and building fence around Sudan grass pasture on C-5.

The last three days of the week all the milo and sorghum in 4.1 foot rows were cultivated with the two-row cultivator. Corn was cultivated with one-horse cultivators.

Breeding blocks of cotton were planted for the Office of Crop Acclimatization on the Herbst and Slocum farms and on field F-3. Cotton varieties were planted on field C-4. The cotton planted on rotation fields before the rain of the preceding week has come through to a good stand on all but two plats.

Cowpeas were planted between the rows on the east half of the corn spacing test, field B-4.

San Antonio (Continued).

Kubanka wheat in the grain variety test on B-4 and four varieties of flax from field A-3 were harvested.

Orchard A1, Nursery A3, and fallow field C4, were weeded. Fallow plats A4-1, 3, and 5, were harrowed.

The following meteorological data were recorded during the week ending May 29, 1920: maximum temperature 93, minimum 63, greatest daily range 26, and precipitation .27 inch on the 29th.

Orchards on A1, A3, E3, and E4, were cultivated. All cotton was cultivated, and where large skips occurred in cotton plats replanting was done by hand. Good stands of cotton have been obtained on practically all plats.

Rotation plats A5-12 and 16 were plowed, harrowed and planted to Whippoorwill cowpeas in three-foot rows. Rotation plats A6-6 and B5-7 were plowed.

Johnson grass and pig weeds were chopped from rotation plats and alleys on fields A5, A6, B5 and B6. Orchards A1 and A3 were weeded. Sorghum varieties on C3 were weeded and thinned.

The stand of cotton, for cultural experiments, planted on C5 being unsatisfactory, an additional two acres of field C4 was planted to Lone Star cotton on May 26. A planting of about two-fifths of an acre of okra was made on field B4 to test out the possibilities of this crop on a field basis.

Oats from the rotation plats; oats from BC-3, and grain varieties from field B4 were thrashed and the following yields recorded:

Rotation Oat Yields.

Grain	Variety.	Plat No.	Yield of Grain		Yield of straw per acre.
			Per plat	Per acre	
Oats	Texas Red Rust Proof	A4-6	197.5	24.7	.98
"	" " " "	-12	202.0	25.3	.63
"	" " " "	-16	232.5	29.1	.76
"	" " " "	A5-8	237.0	29.6	.79
"	" " " "	-12	229.5	28.7	1.48
"	" " " "	-18	207.5	25.9	1.44
"	" " " "	A6-15	106.5	13.3	1.51
"	" " " "	B5-8	288.5	36.1	1.43
<u>Average.....</u>			212.6	26.6	1.12

## San Antonio (Continued).

## Grain Varieties, B4 (1/10 acre plats).

Grain	Variety.	Plat No.	Yield of Grain		Yield of straw per acre.
			Per plat	Per acre	
Oats	Appler's Bulk		76	23.75	1.50
"	Ferguson No. 71		85	26.56	1.53
"	Selection 1913		72	22.50	1.70
"	Texas Red Rust Proof		65	20.31	.97
Barley	Winter		124	25.83	1.75
Rye	Texas		138	24.64	1.85
Wheat	Kubanka		121	20.17	1.73
"	Early Baart		76.5	12.75	.75
Oats from Field BC-3 (2.58 acres).					
Oats	Selection 1913		2071.5	25.1	1.33

Oat pasture on field D3 has run out and the steers were put in dry lot on May 17. The following table shows the gains made by the steers while on this two acres of oat pasture, together with gains made while in the feed lot and being fed Sudan grass in the amounts shown. Pasturing of oats on field D3 was begun December 1, 1919, when the oats were from 8 to 12 inches high.

Results of pasturing two steers on two acres of oats from December 1, 1919, to May 17, 1920:

	Steer No. 1	Steer No. 2
Initial weight of steers, (pounds).....	675	700
Total days on pasture.....	119	119
Total gain on oat pasture (pounds).....	75	155
Total days fed Sudan grass hay.....	49	49
Total weight Sudan grass hay fed (both steers), pounds.....		2436
Total gain while on Sudan grass hay (lbs.)	165	85
Pounds Sudan hay per pound gain.....		9.74
Final weight of steers May 17, 1920....	915	940
-----		

## Umatilla.

The season has been dry, cold and more windy than usual. Stands of alfalfa have been secured, but some have not been successful on account of the inability to get water on the plats until May 8. The rotation experiments in Field C-1 are well established, good stands being secured in all but two borders which had been heavily graded originally and had blown considerably in the past. Considerable emphasis is being placed on silage crops. These experiments consist of time-and-distance of planting with corn and sunflowers and a test of 43 varieties of corn.

## Umatilla (Continued).

The border method of irrigation is attracting considerable attention along the Columbia River, in Benton, Franklin and Walla Walla Counties of Washington.

The soils on the basalt bed rock of the West Extension of the Umatilla Project. Professor Powers, of the Oregon Station, and Mr. Dean have investigated the situation and designed and recommended to the District Board a system of open drains to take care of the situation this year. It has been only three years since irrigation began on this extension but approximately 100 acres have gone back already and unless something is done immediately the area will be increased greatly by the end of this season.

Late rains and snow in the mountains have assured an adequate water supply for this year. The reservoir is full and the river has held up remarkably so that water is still being taken from it.

During the week ending May 22, the maximum temperature was 82, minimum temperature 33, with no precipitation.

Width-and-distance-of-planting experiments with corn and sunflowers were planted. A variety test of corn and sunflowers, which included 43 varieties of corn and three strains of Mammoth Russian Sunflowers, was planted. Volunteer vetch, which was crowding the alfalfa in field A4, was cut. All the irrigable land was irrigated during the week.

During the week ending May 29, the maximum temperature was 80, minimum 36, and the precipitation .04 inch.

Professor Powers, of the Oregon Station and Mr. Dean investigated the alkali and drainage situation on the West Extension of the project at the request of the Board of that district. Approximately 100 acres of alfalfa on the shallow soils underlaid with bed rock at 3 to 4 feet had been killed out. A preliminary system of drains to relieve the difficulty this year was designed and recommended to the Board.

The corn in the rotation in Field D4 was planted. One of the time-of-planting tests of corn and sunflowers was planted. One man was kept at hoeing the weeds along the borders.

Demonstrations on Reclamation Projects.

Shoshone.

Field Notes.

During the week ending May 15, one farm visit was made, 45 office calls were received, 4 other conferences were held and 2 newspaper articles were written.

Cattle for the forest reserve herd were received from 19 men. Thirty-nine of these cattle were inoculated for blackleg with aggressin for 9 men. Thirteen men took out insurance on their cattle.

## Shoshone (Continued).

The car of cattle shipped April 27, was sold in Omaha May 4. Cows sold for \$5.00, \$6.50, \$8.00, \$9.00, \$9.25 and \$10.25 per hundred; heifers sold for \$5.00, \$7.50 and \$8.00; steers for \$6.00 and \$8.00; calves for \$5.00 and \$12.00; and a bull for \$6.00. The expense of shipping was 74 cents per hundred, not counting the shrinkage. A veal calf which weighed 240 pounds in Omaha netted \$27.00 here, while a thin calf, which weighed 450 pounds in Omaha netted \$19.25 here. It is believed that on most farms on this project the calves should be sold as veal.

The following article was written for the local newspaper this week:

PROFIT IN FEEDING LAMBS.

Written by Mr. Magruder for project newspaper.

In charge of Mr. C. E. Goldsberry, the Great Western Sugar Company put on feed on its farm near Powell on December 1, 1919, 820 lambs which averaged about 57 pounds at the time and were valued at about 11 cents per pound. Four of these were sold fat for about \$25. per head and seventeen died early in the feeding period from some unknown cause. The remaining 799 head were shipped about May 1, their average weight being estimated at about 90 pounds here without their wool. They had been sheared April 20, and their wool averaged about 9 pounds. This was a gain of about 32 pounds per head, counting the losses and not counting the wool or a gain of about one-fifth pound per head per day.

About 300 of these lambs had been born on the company farm, at Lovell, during March and April, and were pastured on the Beartooth mountains from July 1 to September 1, and pastured at different places on the project from September 1 until they were put in the feed lot December 1.

Pasturing on the Beartooth mountains was very unsatisfactory because the trip to the mountains and back was very hard on both lambs and ewes. The other 500 lambs were on the range during May and June, and were bought November 10, for 11 cents per pound. They were pastured on the farm until they were turned into the feed lot, December 1.

From December 1 to January 1, the daily ration per head was about 1 pound of dried beet pulp, 2 pounds of beet tops and 2 pounds of alfalfa hay. After January 15, a half pound of barley was added to the ration. On March 1, the beet top silage was substituted for beet tops. So, during the period from December 1, to May 1, the average lamb consumed about 150 pounds of dried beet pulp, 180 pounds of beet tops, 120 pounds of beet top silage, 300 pounds of alfalfa hay and 50 pounds of barley.

## Shoshone (Continued).

The dried beet pulp cost \$2. per hundred, delivered at the farm; the hay cost \$20. per ton, delivered at the farm; the beet tops from a ten-ton yield of beets figured at 5 tons and \$15. per acre, cost about \$3.00 per ton. The cost of hauling beet tops to the pit was about \$1. per ton, so that the cost of the beet top silage counting the value of the tops, the cost of digging the pit and the cost of hauling the tops and putting them into the pit, might be figured at about \$5. per ton. The barley was figured at \$3. per hundred. At these prices, the feed cost for one lamb amounted to about \$8.30 for the feeding period. Figuring the value of the wool at \$4.50 per head, the cost of the gain was \$3.80 per head. So the gain, counting the losses, cost about 12 cents per pound. The returns have not yet been received, but if these lambs net around 16 cents per pound, the company, to pay the labor and interest, will receive about 4 cents per pound on the 32 pounds of gain and about 5 cents per pound on the original 57 pounds of weight, or, about \$4.00 per head, besides the value of the manure obtained.

## Sun River.?

During the week ending May 29, 7 farm visits were made, 4 office calls received and several other conferences held.

The week was largely given over to surveying the main laterals for farmers on the project and assisting them to lay out other ditches.

Considerable time was spent with farmers studying the cut worm situation and informing them on the methods of control.

There has been very little rainfall this week, and the farmers are becoming anxious to begin irrigation. It is expected that water will be available shortly, and farmers are being urged to have their laterals ready when it comes.

About one-third of the grain land on the bench is infested by the "pale western cut worm", which is doing considerable damage to the crop. Many farmers are inquiring as to the control and feel pessimistic with regard to the situation.

- - - - -

1.9  
69W



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUN 26 1920

WILHELMUS DE VRIES

1875

WILHELMUS DE VRIES

1875

WILHELMUS DE VRIES

1875

WILHELMUS DE VRIES

W E E K L Y B U L L E T I N

Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

June 26, 1920.

No. 22

Western Irrigation Agriculture.

Field Notes.

Belle Fourche.

During the week ending June 12, the maximum temperature recorded was 94, minimum 44 and precipitation 1.51 inch.

Weather conditions have been very favorable the last two weeks, and all crops are in excellent condition, the dry land crops being the best in June since 1915. No irrigation will be necessary until after the first cutting of alfalfa.

Repair work on the north canal is very nearly completed and irrigation water can be had any time after this week.

The work for the week was cleaning roads, ditches and general repair work.

During the week ending June 19, the maximum temperature was 85, minimum 46, and precipitation 1.92 inches.

The first half of the week was favorable for farm work and the men were employed in making irrigation ditches, cultivating corn and general cleaning up. In the latter part of the week very little work was accomplished, owing to the stormy weather.

Repair work on the North Canal is nearly all completed, and water can be delivered when needed.

Huntley.

The maximum temperature for the week ending June 12, was 91, minimum 39, and precipitation .11 inch.

Dry weather continued over most parts of the valley, and irrigation to provide moisture for the germination of seeds was quite general. Hail occurred over a small area under the high-line canal. Alfalfa and sugar beets were damaged slightly.

The seeding of barley in Field O-III and O-IV, of sunflowers in O-II and corn in Field B-II and B-III was completed. This completes practically all of the spring seeding.

The first rainfall of consequence since early in May occurred on June 18, when the precipitation amounted to 1.5 inches. This rain came rather late to be of much benefit in starting spring-seeded crops and occurred after most of these crops were

## Huntley (Continued).

"irrigated up." The decrease in beet acreage originally contracted for on most part of the project, due to failure to obtain a stand, will probably amount to nearly one-half. This condition is quite similar to that of last season.

A hail storm occurred on June 24, which seriously damaged crops on the east half of the high line ditch and in the vicinity of Pompeys Pillar, as well as on the dry lands south of the Huntley project.

F. B. Linfield, Director and P. V. Cardon, Agronomist, of the Montana Experiment Station, were visitors at the Experiment farm.

## Newlands.

Report for Period Ending June 19.— The pasture experiment with pigs on sweet clover and alfalfa pastures has now been continued for a period of five weeks. The alfalfa fed pigs have steadily made greater gains than those on sweet clover pasture, the gains in weight being 127 pounds for the former, against 82 pounds for the latter. When the gains are credited at 15 cents and the rolled barley fed is charged at 4 cents, we find that the profits derived from the alfalfa fed pigs has been \$10.13, and only \$3.75 from those on sweet clover.

Period of Five Weeks, May 13 to June 17.Sweet Clover Pasture      Alfalfa Pasture.

Number of pigs	5	5
Initial weight May 13, (pounds)	271	291
Final weight, June 17      "	353	418
Total gain	82	127
Daily gain	2.34	3.63
Daily gain (per cent )	.76	1.04
Barley fed	214	233
Cost of barley at 4¢	\$8.55	\$9.32
Value of gain at 15¢	12.30	19.45
Net return	3.75	10.13

## San Antonio.

Precipitation occurred the last four days of the week ending June 5; a total of 1.33 inches being recorded for the week. The following temperatures were recorded: Maximum 91, minimum 63, and greatest daily range 26.

Rotation plats A4-6, 12, 15; A6-11, 15, and B5-7 were plowed and A6-11 and 15 were subsoiled. Sudan grass in north

## San Antonio (Continued)

half of steer pasture and on plats A6-17, B4-16, and sorghum on plats B4-12, 13 and B5-6 was mowed the day before the rainy weather began. The sorghum was barely beginning to head but it was thought best to mow these plats at this time to prevent the ripening of seed on the Johnson grass which constitutes 60 to 90 per cent. of the growth on these plats.

Very little field work was possible and much of the week was spent in repairing harness and machinery, cleaning buildings, and arranging machinery in the sheds.

Cowpeas on plats A5-12 and 16 are up to about a 75. per cent. stand. Cotton on rotation plats in from 4 to 6 inches high. Corn, milo, and sorghum are making good growth. Corn ear worms are quite numerous and are working on both the corn and sorghum. Sorghum midges are blighting fully 50 per cent. of the milo heads and are to be found in swarms in the sorghum plats which are just beginning to bloom.

During the week ending June 12, the maximum temperature recorded was 90, minimum 65, and greatest daily range 24. A precipitation of .66 inch occurred June 12. Exceptionally heavy dew, together with cloudy mornings, have greatly interfered with the curing of Sudan grass hay and sorghum cut last week. It is doubtful if any hay from the fields mowed to date will be fit for use. Sudan grass on field A6-8 was mowed. Sorghum on plats B4-12 and 13, B5-6 and Sudan grass on plats A6-17, B4-16, and north half of steer pasture on C5 was raked. Weeds were mowed outside the fence along the Chorus Christi road and inside the farm on waste land in A3, B3 and C3.

All cotton on the station was cultivated during the week. Weeds and grass are making rapid growth and much time has been spent cleaning cotton plats on the rotations. Johnson grass and weeds were chopped from orchard E3. Rotation plats A4-16, A5-2, 5 and 8, were plowed.

Mr. A. C. Cooley arrived at the station June 10, and left for El Paso, June 11.

During the week ending June 19, the following meteorological data were recorded: Maximum temperature 92, minimum 65, greatest daily range 27, and precipitation 1.2 inches, distributed as follows: June 13, 1.07; June 17, .02 inch; June 18, .02 inch, and June 19, .09 inch.

Weeding and thinning of cotton plats in the rotation fields was completed and all cotton on the farm was cultivated.

Very little team work was possible during the week and labor was kept busy weeding roads, fences, and cotton; thinning cotton; killing rats; and working on the grounds.

## San Antonio (Continued).

Rhodes grass was hauled from fields A3, B3 and B4, and the following yields of field cured hay recorded:

Field	Area, acres.	Yield.	
		Per plat. Pounds.	Per acre. Tons.
A3.....	.82	1760	1.07
B3.....	.40	610	.76
B4.....	.52	960	.92
<u>Average...</u>			.92

Demonstrations on Reclamation Projects.Field Notes.

## Sun River.

During the week ending June 5, seven office calls were received, ten farm visits were made and other conferences were held.

The first part of the week was spent surveying and laying out ditches for farmers on the project. By request two days were spent with farmers on the east end of the project instructing them in laying out farm ditches and answering questions regarding irrigation practices and re-seeding grain on land where crops were destroyed by cut worms.

The Reclamation Service has notified the farmers that water will be delivered to them by the 10th and most of them are preparing their ditches to begin irrigation as soon as the water comes.

People on the project have expressed an appreciation to the Agricultural Department for the assistance which this office is rendering them.

Considerable loss is still being experienced due to the cut worm pest and no satisfactory control has been found as yet.

During the week ending June 12, nine office calls were received, eight farm visits were made and other conferences were held.

The entire week was spent with farmers on the project helping them to lay out ditches and survey main laterals.

The weather during the past week has continued dry and cold with a constant high wind; this has increased the necessity for early irrigation.

The project farmers are busy making ditches and some few have commenced irrigating their alfalfa.

## Sun River (Continued).

Mr. G. O. Sanford, project manager, came out Tuesday to study the development of the cut worm situation. Tuesday afternoon was spent with him visiting infested land, and the conclusion arrived at was that about half the grain crop was materially damaged.

Mr. Clarkston, county agent, at Chateau, Montana, wrote requesting assistance at the "Boys' Convention" to be held there during the week beginning June 21.

During the week ending June 19, ten farm visits were made, eight office calls were received and several other conferences were held.

The entire week was spent on farm on the project assisting the farmers to lay out their farm ditches and answering questions regarding cultivation, worm control, re-seeding, etc.

The project received two showers during the week; this station recorded .51 inch precipitation.

The main canal broke Tuesday and the water has been out while the repairs are being made. The Reclamation Service expects to deliver water again Monday.

The cut worm situation remains the same. The last storm has brought many into the worm stage which before had not hatched.

The crop situation in general is good where the worms have not infested the land, the best results are being obtained from land that was spring plowed.

During the week ending June 26, 12 farm visits were made, 6 office calls were received, 6 camp meetings were attended, two talks were delivered and other conferences were held.

The temperature has been higher during the past week. The bench received two good showers, one and eleven hundredths inches was recorded at this station.

The first part of the week was spent at Chateau, Montana, assisting the County Agent in conducting a boys camp. The time was spent instructing and helping to organize a pig club.

Two days were spent with farmers assisting them with laying out ditches and irrigating. Saturday was spent with the cashier of the State Bank of Fairfield, visiting farmers on the east end of the bench for the purpose of instructing them when to irrigate different crops.

Irrigation on the project now is in full swing, and in another week practically all the wheat crop will have received one application of water.

## Milk River.

During the week ending June 5, seven farm visits were made, three calls for assistance were received, and one irrigation meeting was attended.

## Milk River (Continued).

The week was spent largely in the field, surveying and outlining the location of irrigation farm ditches and planning methods best suited to the conditions at hand.

Some time was spent in making a close examination of different soils in order that proper recommendation for water could be given.

An appreciable amount of irrigation water is being wasted as far run-off and wherever this can be avoided advice is given to that effect.

During the week ending June 12, nine farm visits were made, four calls for assistance were received and one farm bureau meeting was attended.

Practically the last planting of the season on this project was made last week. One or two farmers still intend to sow flax on well prepared land provided there is sufficient rainfall before the 20th of this month.

The irrigation systems on the east end of the project are now in full operation and the farmers are applying the water to their land as fast as they can finish the construction on their farm ditches.

Some territory under private projects in the vicinity of Chinook, Montana, will suffer from lack of water on account of private irrigation organizations being unable to deliver water this year. There seems to be some confusion in certain systems due to inefficient methods of distribution. This, together with the general shortage of labor and the late spring, will probably prevent the delivery of water on these projects for the present.

There is a farm bureau meeting at Chinook, June 18, and the county agent has arranged for a discussion of the rotation system of distributing water which has proved successful for small private irrigation projects in other sections.

---

MISCELLANEOUS.Western Irrigation Work in 1921.

The reduction of the appropriation for Western Irrigation Agriculture investigations for the fiscal year 1921 makes it necessary to restrict the work very materially. The actual reduction is from \$73,580 as of the year 1920, to \$52,380 for the year 1921. After a careful diagnosis of the situation it has been decided to suspend the work at Hermiston, Oregon; Fallon, Nevada; and San Antonio, Texas; and to reduce the allotments for the Washington office and the remaining field stations sufficiently to keep within the limits of the appropriation.

## Miscellaneous (Continued).

The work at Hermiston has been supported cooperatively and in equal amounts by this Department and the Oregon State Experiment Station. It is now planned to carry on this work for the remainder of the crop season, using only the funds from the State institution, and to ask Congress for an appropriation to be available not later than March 1, 1921, to carry on the station work for the remainder of the fiscal year.

The work at Fallon will be reduced on July 1, 1920, to the lowest possible point. One laborer and the assistant farm superintendent will be retained temporarily to care for the property and such of the crops and experiments as they are able to keep going. It may be possible to retain the assistant farm superintendent until September and the laborer until February. If, by the latter date, Congress has made provision for continuing the work, it may be resumed; otherwise, it will be necessary at that time to discontinue it finally.

At San Antonio, it will be possible to keep one clerk and two laborers, who are on the statutory rolls, to look after the property and care for the extensive tree plantings which would otherwise suffer or be lost entirely. If Congress makes provision for this station in the next appropriation bill the work may be resumed next season; if not, much of the more important plant material may be removed next winter and the station discontinued.

Demonstration Work During the Fiscal Year 1921.

The Office of Demonstrations on Reclamation Projects has likewise suffered a cut in its appropriation, amounting to a reduction of \$20,000 from that of the previous year.

In order to adjust the work of the office so as to come within the limits of the appropriations, it has been found necessary to temporarily abandon work on several of the projects. These projects are the North Platte, the Belle Fourche, and the Yakima. It is proposed to inaugurate some work on the Grand Valley Project, Colorado, and the services of Mr. F. B. Headley, now Superintendent of the Newlands Experiment Farm, at Fallon, Nevada, will be utilized for this work. Mr. H. K. Dean, Superintendent of the Umatilla Experiment Farm, will conduct demonstration work on the Umatilla Reclamation Project.

Pasturing Hogs on Alfalfa.

One of the by-products of the experiments with irrigated crop rotations on the Northern Great Plains field stations, has been some data on the gains made by hogs on alfalfa pasture supplemented by a 2 per cent. ration of corn. This experiment has run since 1913 at Scottsbluff and since 1914 at Belle Fourche and Huntley. It has been run in duplicate at Belle Fourche since 1915 and at Huntley since 1917. It was also duplicated in connection with some other experiments at Scottsbluff in 1915 and 1916.

The plan of the experiment has been to pasture the third year alfalfa crop in a six-year rotation. The plat is one-fourth acre in each case and divided into two parts to permit alternate pasturing and irrigation. The aim has been to keep hogs enough on the pasture to consume all the alfalfa produced. During the first two months of the season, beginning about May 1, it has been the practice to use fall-farrowed shoats that have been carried through the winter in good growing condition. About the first of July these fall pigs have been removed and spring pigs have been put on to remain on the pasture until the end of the growing season--late in September. While on the alfalfa pasture the hogs are fed corn once a day, the amount fed being equal to 2 per cent. of their live weight. This weight is determined each time the lot is changed from one part of the pasture to the other.

The data presented here include only the total gains in live weight, computed to the acre basis, for each plat for each season, and the quantity of corn consumed in addition to the pasture, for each pound of gain made. In other words, the table shows the quantity of pork produced per acre of alfalfa pasture and also the pork value of corn when fed to hogs on alfalfa pasture.

A summary shows that at Scottsbluff in nine experiments there has been an average of a little over 3000 pounds of pork produced per acre of alfalfa and that it has required about 2.4 pounds of corn for each pound of pork produced. At Belle Fourche where there have been eleven trials the average pork production per acre has been about 1900 pounds, and it has required about 2.5 pounds of corn for each pound of pork produced. At Huntley there have been nine trials with an average of 2400 pounds of pork per acre and it has required nearly 2.9 pounds of corn for each pound of pork.

The range of the annual results in pork produced per acre and grain consumed for each pound of pork produced is shown in the following table:

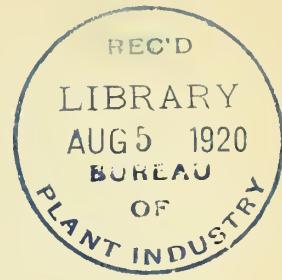
Results of pasturing hogs on alfalfa with a 2 per cent. ration of corn, Belle Fourche, Huntley, and Scottsbluff, 1913 to 1919.

Year	Belle Fourche.		Huntley.		Scottsbluff.	
	Gain per Acre.	Pounds grain per pound gain.	Gain per Acre.	Pounds grain per pound gain.	Gain per Acre.	Pounds grain per pound gain.
1913	.....	.....	.....	.....	3952	2.34
1914	1830	2.78	2304	2.78	3036	2.72
1915	2024	2.36	2476	3.13	2976	2.37
1915	2108	2.36	.....	.....	2760	2.46 - 1/
1916	1962	2.69	3032	2.31	3228	2.29
1916	2006	2.56	.....	.....	3142	2.74 - 1/
1917	1742	2.59	2180	2.87	2644	2.69
1917	1740	2.56	2480	2.64	.....	.....
1918	1942	2.51	2360	2.72	2700	1.87
1918	2138	2.28	2248	2.85	.....	.....
1919	1710	2.60	2476	2.99	3192	2.10
1919	1688	2.63	2096	3.43	.....	.....
Mean	1899 <sup>+38</sup>	2.54 $\pm$ .03	2406 <sup>+55</sup>	2.86 $\pm$ .06	3070 <sup>+82</sup>	2.40 $\pm$ .07

1/ Not in rotation experiment (Scottsbluff).



1.9  
P69W



**WEEKLY BULLETIN**  
**OF THE OFFICES OF**  
**WESTERN IRRIGATION AGRICULTURE**  
**AND**  
**DEMONSTRATIONS ON RECLAMATION PROJECTS**  
**BUREAU OF PLANT INDUSTRY**  
**U. S. DEPARTMENT OF AGRICULTURE**

JUL 31 1920

WILHELM VON HÖHENS

— 1870 —

WILHELM VON HÖHENS — 1870 —

— 2 —

WILHELM VON HÖHENS — 1870 —

WILHELM VON HÖHENS — 1870 —

WILHELM VON HÖHENS — 1870 —

WEEKLY BULLETIN  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

July 31, 1920.

No. 23

Western Irrigation Agriculture.

Field Notes.

Belle Fourche.

During the week ending July 3, the maximum temperature was  $93^{\circ}$ , minimum  $55^{\circ}$ , and precipitation 2.21 inches.

The second boys encampment was held at the experiment farm, attendance being only eighteen. This small number was largely due to bad roads and so many of the larger boys having to stay at home on account of work.

The camp was in charge of County Agent A. D. Ellison, Dr. Weaver, from the Extension Division, and E. W. Hall, County Agent for Lawrence County. While the camp was not as large as it was last year, it seemed to be fully as much of a success, and all of the boys expressed a desire to come back next year.

Due to weather conditions the haying during the last two weeks has been rather slow; all the cutting being completed Saturday, but have not been able to do any stacking.

A family of Mexicans was secured from the sugar company to thin the beets and commenced work on Friday.

The beets and corn were cultivated in Field A, corn and potatoes in maximum production and the corn and sunflowers in the silage test.

On account of the continuous rains no stand of potatoes was secured in Field A.

Nineteen inches of rain has fallen this season up to July 1--8.34 inches in May and 6 inches in June.

During the week ending July 10, the maximum temperature was  $84^{\circ}$ , minimum  $46^{\circ}$ , with a precipitation of 1.58 inches.

The work for the week consisted of cutting and hauling alfalfa which was finished in field A.

The maximum yield of alfalfa one year old or over was 2.72 in Rotation 60, and the minimum 1.58 in Rotation 62.

The thinning of beets is about one-half completed.

No cultivation could be done owing to the frequent rains.

Huntley.

Crops on many parts of the project were damaged seriously by hail which occurred on July 4. The damage was most serious on each side of the valley in the vicinity of Osborn, and in the dry lands south of the valley as well as over a section near Pompeys Pillar. Many excellent fields of winter wheat on dry lands adjacent to the project were completely destroyed. At the experiment farm the damage was less serious, although most crops were injured to some extent. Flood waters, as a result of the heavy precipitation in the hills on the south, broke the banks of the main irrigation canal near Osborn, and the lands in Fields D and B of the experiment farm were badly flooded. About 10 days' time will be required to repair the canal before water can be turned in.

Alfalfa hay was hauled in from fields K and L. This hay was all badly damaged by the storm. The yields are given in the following table:

Plat No.	Rotation No.	Pounds per Plat	Tons per Acre.
K-II-6	67	934	1.87
III-1	61	1040	2.08
6	61	890	1.78
7	60	1054	2.09
12	60	700	1.40
IV-2	40	706	1.41
8	42	624	1.25
11	44	378	.75
12	44	570	1.14
22	8a	696	1.39
K-I-Tri		3078	2.10
II- "		2994	1.27
III- "		2966	1.87
L-IV-12	46	826	1.65
13	46	394	.79
14	8a	8000	1.60
16	64	766	1.53
17	64	830	1.66
18	64	340	.68
24	69	796	1.59
25	69	340	.68

Newlands.

The experiment of pasturing pigs on sweet clover and alfalfa pasture was continued as described in the previous report. It will be noted that for the period ending July 15, those on sweet clover made a daily gain of only 69 per cent. and those on alfalfa were still lower, the daily gain being but 52 per cent. No satisfactory explanation of this reduction in gains can now be given.

## Newlands (Continued).

During the entire feeding period of nine weeks the pigs on alfalfa have made the greatest gains, the ratio being 91 per cent. for the alfalfa fed pigs to 73 per cent. for those on sweet clover. During this period those on sweet clover required 2.74 pounds of barley to one pound gain and those on alfalfa 2.5 pounds barley to each pound gain.

	Period of 4 wks June 17-July 15		Period of 9 weeks May 13 to July 15.	
	Sweet clover pasture	Alfalfa pasture	Sweet clover pasture	Alfalfa pasture.
Number of pigs	5	5	5	5
Initial weight (lbs.)	353	418	271	291
Final "	428	483	428	483
Total gain "	75	65	157	192
Daily gain "	2.68	2.32	2.49	3.05
Daily gain, percent	69	52	73	91
Barley fed lbs.	2.5	247	429	480
Cost of barley @ 4¢	8.60	9.88	17.16	18.80
Value of gain @ 15¢	11.25	9.75	23.55	28.40
Net return	2.65	-.13	6.39	10.00
Barley per lb gain, lb	2.87	3.80	2.74	2.50

July 31, 1920.

Newlands (Continued).

## Statement of Alfalfa Yields, First Cutting, 1920.

Rotation No.	Yield, lbs.	Area	Yield per Acre.
C-11	630	.38	1658
13	835	.28	2982
D- 2	650	.34	1912
3	635	.34	1868
F- 2	520	.25	2030
5	515	.25	2060
6	485	.25	1940
7	355	.25	1376
8	410	.25	1640
9	90	.25	360
10	90	.25	360
11	90	.25	360
12	180	.25	720
14	475	.25	1900
D- 6	1265	.54	2343
7	1140	.51	2235
H- 5	575	.53	1085
6	585	.53	1104
7	845	.53	1594
11	1930	.36	5361
12	1985	.43	4616
13	2190	.50	4380
16	751	.50	1502
17	1265	.34	3721
18	1185	.34	3485
19	775	.34	2279
20	1000	.34	2941
21	780	.29	2690
22	735	.29	2534
23	710	.29	2548
24	670	.29	2310
25	230	.29	793
<b>Total</b>	<b>24576</b>	<b>11.08</b>	<b>2218 avg.</b>

San Antonio.

During the week ending June 26, the maximum temperature was 92, minimum 61 and greatest daily range 28. A total precipitation of .98 inch was recorded as follows: June 20, .47 inch, and June 22, .51 inch. These rains, following the showers of the preceding week, and combined with the exceptionally heavy dew which occurred every night, have interfered greatly with field operations.

## San Antonio (Continued).

Weeding of all cotton, except that on C5, was completed and cotton on C4 and F3 was thinned.

Sorghum was hauled from rotation plats B4-12, 13 and B5-6, and Sudan grass was hauled from A6-17, B4-16, and steer pasture C5. This hay has been on the ground for from two to four weeks, due to continuous showers, and was so badly rotted as to be unfit for feed. Sudan grass on the south half of the steer pasture was cut for hay. Sorghum in 8 inch drills on B5-11, 15, and in 4.1 foot rows on A4-10, A6-4, B5-5, 9, 13, was cut June 25.

Grapes on A3 were summer pruned, and suckers were removed from the trees in orchards A1, A3, and B3.

## Yuma.

A sudden rise in the daily temperatures during the week ending July 10 has marked the end of an unusual, but rather pleasant, season so far this year. Crops in general throughout the valley are in pretty fair condition. Cotton is passing through a somewhat critical stage with the high temperature, change in humidity and danger of over-irrigating, all combining to decrease yields. A high percentage of the cotton acreage on the project, however, seems to have been well cared for and well grown. It is noticed that in comparison with last year, the cultural methods, including width-of-rows-at-planting, thinning-distances, time-of-chopping, cultivations, time-of-irrigating, etc., have all been standardized more this season.

The harvesting of alfalfa seed has been under way for a week or so. Reports from all sections indicate that this has been a good year for alfalfa hay but a very poor one for seed. It is estimated from various sources that the amount of threshed seed per acre will average only fifty per cent of the normal yield.

With the seeding of three acres of Sudan grass on series C, plats 36 to 41, all plantings for the summer season have been completed.

On July 5th a community picnic was held at the station under the auspices of the Bard Good Roads Association. About 400 people were present and all report having spent a very enjoyable day.

The maximum temperature for the week was  $11\frac{1}{4}$ , minimum 60, greatest daily range 46, and precipitation 6.

Demonstrations on Reclamation Projects.Field Notes.

## Milk River.

During the week ending June 26, eight farm visits were made, four requests for assistance received, and one office conference held.

Irrigation has been suspended during the week on account of frequent rains. The main canals are shut down at the head works since there is no call for water expected for another week, or until dry weather comes.

The week was largely given over to the surveying of farm ditches for farmers who have had trouble in locating the proper place for their "turnouts" and where the land is so nearly level that the slope can not be ascertained without an instrument.

The almost daily rains have interfered with the commencement of haying which would have been fairly well under way by this time had the weather continued dry, but none of the alfalfa fields is in full bloom yet, and in fact there are very few fields that are any more than ready to cut.

The overflow water from Beaver creek that flooded the territory around and near Saco is going down rapidly, but the flooded section will need no further irrigation this year.

During the week ending July 3, eleven farm visits were made, two calls for assistance received, and four other conferences held.

There has been no irrigating done on the project during the week, but there has been a number of calls for water within the last two days. The main canals are still closed at the head works but operation will probably be resumed again next week.

The farmers are busy cutting alfalfa, and because of the land being so damp they are having considerable trouble in getting the hay dry enough to stack. Some fields have been laying in the swath or windrow for four to six days and is still too heavy to put in the stack. Advice was given in several cases where farmers were anxious to stack that an application of salt be given to help cure the hay.

Some fields of young alfalfa sown on the heavy abode soil is beginning to look pale and lifeless on account of the baking effect of the surface. The last few days of hot weather has seemed to form a regular hard-pan crust on top that has a tendency to choke the growth of the plant. Some farms are being rolled with a heavy corrugated roller in hope that it will break the crust sufficiently to allow the plants to continue their growth.

## Milk River (Continued).

During the week ending July 10, twelve farm visits were made, three calls for assistance received, and other conferences held.

The maximum temperature recorded was 89, minimum 65, and precipitation .50 inch.

The weather conditions have been favorable the latter part of the week for curing alfalfa and other hay. The most of the cutting has now been completed.

One day of the week was spent looking over the Government experiment farm at Havre, Montana, in company with Messrs. R. A. Oakley, H. L. Westover, Agronomists, and Mr. George W. Morgan, supt. of the farm. Some interesting information and data were obtained regarding the different varieties of alfalfa adaptable to this climate.

Some time was spent during the week in taking and preparing soil samples for analysis which is to be done by the Montana Agricultural Experiment Station at Bozeman. Six samples were taken in compliance with requests from different farms.

The latter part of the week was spent on the eastern part of the project in the vicinity of Glasgow, and Nashua. Irrigation of wheat, oats, flax, and second-crop alfalfa is being done quite extensively in this part. One farmer was using about 26 cubic feet per second from the Vandalia canal.

All the canals on the Milk river system are delivering from 50 to 90 cubic feet per second to the farms at present.

## Sun River.

During the week ending July 10, seven farm visits were made, six office calls received and conferences held with men engaged in agricultural research work for the government.

The first part of the week was spent at the experiment farm at Havre, Montana, in company with Messrs. R. A. Oakley, Agronomist in Charge of alfalfa work, and Congressional seed distribution, C. C. Wright, assistant on the Milk River Project, H. L. Westover, Agronomist in charge of alfalfa production at Yuma, Arizona, G. W. Morgan, in charge of the experiment farm at Havre, and Mr. Brown, who is investigating the flax crop in this state for the Vinden Linseed Oil Company. Problems regarding crop production were discussed and suggestions were received pertaining to work on the Reclamation projects.

Two half days were spent en-route to official station and the remainder of the week was given over to work with the farmers around Fairfield, assisting them with ditches, irrigation, etc.

There has been no rainfall during the past week and the weather has been hot with hot, dry winds.

## Sun River (Continued).

During the week ending July 17, ten farm visits were made, the time spent on each farm varying from two hours to one day; twelve office calls were received; ditches were surveyed and irrigating systems were planned on approximately 400 acres.

The first part of the week was spent on the Fort Shaw Division, assisting farmers in planning irrigating systems.

On Wednesday, in company with Mr. A. C. Cooley, a trip was made over the Sun River project to inspect the work done during the summer and to give some idea of the assistance that has been rendered the farmers.

Thursday was spent in the office with Mr. Cooley examining reports and receiving instructions regarding the work. The remainder of the week was spent with farmers giving assistance with irrigation problems.

Miscellaneous.

F. R. Ellis has resigned, effective August 15, and the clerical work of the two offices will, after that date, be handled by Norman E. Lambert.

-----000-----

9  
9W



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 31 1920



W E E K L Y   B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

August 31, 1920.

No. 24

Western Irrigation Agriculture

Field Notes.

Huntley.

Favorable weather conditions prevailed during the two weeks ending August 7 and crops are making excellent growth. The harvest of winter wheat on dry lands was begun. Wheat on summer tilled lands on neighboring farms is yielding from 25 to 35 bushels per acre.

A four-days boys' encampment was held at the experiment farm during the last week of July. Forty boys, ranging in age from 10 to 18 years, attended. A daily program of instructional and demonstration work and sports was carried out. The annual project picnic was held on July 31. The attendance at the picnic was estimated to be about 2,000 people.

Messrs. Scofield and Cooley visited the station on July 28 and 29. Mr. F. D. Farrell, Director of the Kansas Experiment Station, arrived at Huntley on August 7.

Demonstrations on Reclamation Projects.

Field Notes

Sun River.

During the week ending July 24, thirteen farms were visited and ten office calls were received. Head ditches were surveyed and irrigation systems planned on 510 acres.

The entire week was spent in the field with the project farmers assisting them in laying out their ditches and planning irrigation systems. Some difficulty has been experienced in getting the farmers to make large enough ditches to handle a good irrigating stream.

Sun River (continued).

During the week ending July 31, eight farm visits were made, 7 office calls were received, and one farm meeting was attended.

A committee of Congressmen, accompanied by Mr. A. P. Davis, of the U. S. Reclamation Service, visited the project on Monday.

Considerable time was spent with farmers helping them with irrigation problems and encouraging them to begin plowing and leveling their land for spring crops.

During the week ending August 7, fourteen farm visits were made and head ditches were surveyed on about 300 acres.

With the object of getting in touch with all the farmers on the east end of the project, three days were spent out of Power, Montana. Most of the farms were visited and good success was had in assisting them with their farm problems. They seemed to be exceedingly anxious to receive suggestions regarding the preparation of land for irrigation and getting their laterals properly placed.

During the week ending August 14, two picnics were attended and ten farm visits made for the purpose of surveying ditches and rendering other aid. Irrigation systems were planned on 400 acres of land.

Some time was devoted to examining crops that have been irrigated by different methods and where different amounts of water had been applied. From several good examples, it appears that where the "check" method was used and a large amount of water applied to alfalfa, the growth was faster and a somewhat better stand was secured. The "border" method of irrigating grain has proved to be the best in handling large streams and has given the best results. Where the crop received two or three irrigations, the stand is heavier and the head is larger than where only one application was made.

During the week ending August 21, sixteen farm visits were made and irrigation systems planned on 350 acres.

A trip was made to the Fort Shaw division in company with two farmers, and two members of the Reclamation Service, to examine the possibility of extending a ditch to irrigate rough land. After a careful study of the contour of the land, and condition of the soil, it was decided that the expense of the ditch would make the cost per acre about sixty dollars which was considered too high for the returns that might be expected from irrigating.

During the week ending August 28, twenty farms were visited and one picnic was attended.

The past week has been cold and stormy, with a constant wind which has delayed cutting of grain.

Milk River.

During the week ending July 24, the maximum temperature was 97, minimum 86, and precipitation 0.11 inches. Nine farms were visited and 6 calls for assistance were received.

Project crops of wheat, oats, and flax that were seeded late are beginning to show signs of suffering from lack of moisture. There have been a few hot winds during the week and these crops are drying out rapidly. Farmers are being urged to get the water on as soon as possible.

Considerable time was spent with different farmers explaining and laying out simple irrigation systems so that the water can be applied immediately. Systems were completed on two farms and water is being used satisfactorily. Other farms are being prepared with supply and field ditches with the expectation of their being ready for irrigation the early part of next week.

Some of the earlier grain crops are nearly matured and will be only slightly affected by the warm weather. Harvesting of these grains will probably begin next week.

The acreage of grain that has been irrigated to date this year is very small due to the unusually heavy rainfall.

The second crop of alfalfa is beginning to bloom and cutting will probably begin in about a week. The average yield per acre promises to be a little less than the first crop, which was approximately  $1\frac{1}{2}$  tons per acre.

During the week ending July 31, the maximum temperature was 96, minimum 90, and precipitation 0.50 inches. Eight farm visits were made and 5 calls for assistance were received.

Farmers on the project commenced harvesting their early wheat and oats during the week and some fairly good yields are expected.

One farmer reported the loss of seven acres of alfalfa from what was found to be the sugar beet webb-worm. No other infested fields have been found or reported to date.

During the week ending August 7, the maximum temperature was 95, minimum 88, and precipitation 0.00 inches. There were eleven farm visits made and 3 calls for assistance received.

Harvesting of grain and second crop alfalfa is now in full swing on the project. Most of the early grains are now in the shock but the flax crop and late wheat and oats are still too green to cut, and, in some cases, are still being irrigated.

Milk River (continued).

One field of heavy oats is just beginning to head and was irrigated during the week. Immediately following the irrigation, a heavy wind appeared and caused the grain to lodge quite badly. Present indications make it appear likely that the crop will straighten up as soon as the soil begins to dry sufficiently.

During the week ending August 14, the maximum temperature was 98, minimum 68, and precipitation 0.02 inches. Eighteen farm visits were made and 8 calls for assistance were received.

The prospects for alfalfa seed crops on the project are very poor. On three farms where the second cutting was being left for seed, advice was given to cut it for hay. Frequent rains during the blooming stage have interfered with the proper pollination of the plants.

The majority of the grain crops are now in the shock but threshing has not yet commenced. Grain promises to bring a fair price in this locality and some alfalfa hay is being sold for \$15.00 per ton in the stack.

During the week ending August 21, the maximum temperature was 100, minimum 75, and precipitation 0.00 inches. There were eleven farms visited and 6 calls for assistance received.

The week was largely given over to examination and study of alfalfa seed crops. There is quite a considerable acreage of second crop alfalfa on the project that was left for seed and the development of the crop during the week has shown that there will be very little seed produced this year.

A CORRECTION.

In a statement on "Pasturing Hogs on Alfalfa" in the Weekly Bulletin of June 26, 1920 (page 216), there is an error which should be corrected. This error occurs in the table under "Scottsbluff" - "pounds grain per pound gain" and opposite "1918" where the entry reads "1.88". This entry should read "2.62" and the mean of this column should read "2.48±.06". This error is due to an incomplete report as to the quantity of corn fed the hogs on alfalfa pasture during the second period in 1918.

C.S.S.

WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

1917-1918. 1918-1919.

1918-1919.

1918-1919. 1918-1919.

1918

1918-1919. 1918-1919. 1918-1919.

1918-1919. 1918-1919.

1918-1919. 1918-1919.

W E E K L Y   B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
And  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

September and October, 1920.

Nos. 25 and 26.

Western Irrigation Agriculture.

Field Notes.

Belle Fourche.

During the week ending October 2nd, the maximum temperature was 83, minimum 23, and precipitation .01.

The first killing frost occurred on September 25 when the temperature dropped to 30, the frost-free period for the year being 149 days.

Station work during the week consisted of putting in a new cistern at the machine shed and forms for concreting the bunkhouse. Plowing in field G was completed. The third cutting of alfalfa in field A was mowed and raked. Potatoes were dug on the maximum-production plats, the yields of which were 94.7 and 102.0 bushels per acre.

The harvesting of sugar beets will be started on Monday, the beets having been sold to the Great Western Sugar Company.

Newlands.

Under date of October 20, Mr. Headley reported as follows:

The potato crop was harvested October 18, 19 and 20. The soil in the field was very spotted, and as the potato crop is very sensitive to soil variations, large differences in yields of rows of the same kind were obtained. The experimental error was so great as to render results of doubtful value, even though pains were taken to multiplicate the experiments. If potato experiments are to be conducted on the Newlands Project in the future, it will be advisable to select for the purpose land on some private farm for that on the Newlands Experiment Farm is so irregular, even in small areas, as to render questionable the results of cooperative tests.

The rows were 3.5 feet apart and except in the distance of planting tests, the seed pieces were dropped 18 inches apart in the row. The yields given are for rows 150 feet long.

Newlands (continued).

Experiment 1.-- Distance apart of seed pieces in the rows; yields given as pounds per 100-foot rows.

Distance of Planting.	12 Inches	18 Inches	24 Inches
Series 1 .....	140	88	154
Series 2 .....	131	135	118
Series 3 .....	122	109	106
Average of useable tubers, ...	131 $\pm$ 3.6	111 $\pm$ 7.5	126 $\pm$ 8.1
Culls % of total yield, .....	13.6	13.5	9.4

The relatively low yield of the 18-inch planting appears to be due to a reduced yield in Series 1. If only series 2 and 3 were used the results would be more uniform, indicating that slightly larger yields are obtained from closer plantings.

Experiment 2.-- Whole Vs. Cut Tubers for seed; yield given as pounds per 100-foot rows.

Item	Whole	Cut
Series 1 .....	140	134
Series 2 .....	106	62
Series 3 .....	77	64
Series 4 .....	80	49
Series 5 .....	41	52
Series 6 .....	60	106
Series 7 .....	295	224
Av. yield useable tubers .	114 $\pm$ 20	99 $\pm$ 15
Culls % of total yield, ..	19	18
Seed per row, lbs.	13	8

The small increase in yield obtained from the whole seed was easily within the limits of experimental error.

Experiment 3.-- Comparison of Small, Medium and Large Potatoes for Seed.

In this experiment seed was selected from the bin into three sizes: those weighing under four ounces being classed as small; 4 to 8 ounces as medium; and those over 8 ounces as large. To plant a row, six pounds

Newlands (continued).

of small seed was required, 11-1/2 pounds of medium, and 23-1/2 pounds of large. The yields given are in pounds per 150-foot row.

Item	Small	Medium	Large
Series 1 .....	92	108	135
Series 2 .....	207	224	235
Av. yield of useable tubers.	150	166	185
Per cent culls, .....	11	10	11

The increased yield resulting from the use of larger tubers for seed is in accord with results of experiments of previous years.

Yuma.

During the week ending September 18, the maximum temperature was 98, minimum 55, precipitation 1.31 inches, and greatest daily range 40.

A heavy rain during the middle of the week stopped practically all field work on the project. The total precipitation recorded here at the station for the two days September 14 and 15 was 1.31 inches; 1.75 inches at Yuma, and 2.17 inches on the Yuma Mesa Station. All dirt roads are in an almost impassable condition. Some injury to alfalfa hay and late seed crops is reported.

The cotton situation continues to be very unsettled. Short staple is selling 28 to 30 cents, with no sales of Egyptian reported.

A few more days will complete the plowing on series B-plats, 3 to 16. Fallow plats A-1 to 9 will be spring-toothed to kill out the Bermuda grass started by the recent rain.

Cowpeas growing on the garden plats were plowed under the fore part of the week.

During the week ending September 25, the maximum temperature was 103, minimum 41, and precipitation 0.00.

The importation of a large number of Mexican families from the fruit growing sections of California has relieved somewhat the shortage of cotton pickers here in the valley. The grade of work performed by these inexperienced pickers is very poor. Picking prices still remain at 2 cents for short staple and 4 cents for long staple cotton.

Cotton was selling at 31 cents a week ago, but at present most bids are around 25 cents. The mills have boosted the price of cotton seed to \$23.00 per ton.

Yuma (continued).

Station work during the week consisted of plowing on series B-plats, 6 to 12; harvesting the mature sorghums on series C-plats, 19 to 22; disking, harrowing and ridging garden plats; and general hoeing and cultivating.

Mr. C. J. King of the Sacaton Station was here the latter part of the week.

During the week ending October 2, the maximum temperature was 102, minimum 40, and greatest daily range 52.

The price of short staple cotton continued to drop during the week until the new low level of 21 cents was reached. Very few sales are reported as this price is considerably below the average cost of production.

Very little activity is shown in the alfalfa seed market. The better grades of Hairy Peruvian are selling under 30 cents per pound. Hay is bringing \$15.00 per ton in the field.

Excavation work for 93,000 cubic yards of main canal on the Yuma Mesa was begun on September 27. April 15 is the date set for the completion of this work.

Station work during the week consisted of threshing alfalfa varieties, plowing on Series D-plats, 13 to 17, harvesting cowpea varieties in nurseries, and harvesting grain sorghum on series C. The fall garden was planted during the week.

Mr. H. M. Hall, Research Collector for the Carnegie Institute, was a station visitor on the 30th. Messrs. Collier and Wells of the Southwest Cotton Company visited the station on October 1.

During the week ending October 9, the maximum temperature was 96, minimum 50, and greatest daily range 43.

Ideal weather conditions continue for the harvesting of the cotton crop. This fall so far has been much warmer than last year. Cotton picking and ginning continues in full sway all over the valley. So far the yields reported for both short and long staple cotton have been very fair. The lint percentage, however, is conceded to be much better than for previous years. The short cotton in some cases is turning as high as 40 per cent. Officials of the tire companies who have kept in close touch with the condition of the long staple crop in the Southwest estimate that the highest average yield per acre will be obtained this year in the San Joaquin Valley, the Yuma, Salt River and Imperial Valleys following in the order named.

Alfalfa fields are being renovated and land is being prepared for seeding. Fall plowing for grain crops has commenced.

Station work during the week consisted of plowing alfalfa stubble Series D-plats, 17 to 22; harvesting grain sorghum varieties C-19 to 28; harvesting dwarf hegari on plat variation test C-32 to 35; disking, harrowing and seeding field peas on B-3 and 4; threshing nursery selections of alfalfa and cowpea varieties; and installing irrigation gates on B series 14 to 17.

Yuma (continued).

During the week ending October 16, the maximum temperature was 93, minimum 39, and greatest daily range 49.

Weather conditions continue to be very favorable for farm work. The nights are getting quite cold but the days are still warm. Cotton picking and ginning and the harvesting of grain sorghums and alfalfa hay crops continue uninterrupted.

The still dropping price of cotton has practically suspended all sales. Some buyers are offering a price as low as 17 cents. Cotton seed has dropped again to \$20.00 per ton.

The alfalfa seed growers on the project have organized and by giving financial assistance to needy members are trying to force the price of Hairy Peruvian seed to 30 cents or better.

Station work during the week consisted of harvesting alfalfa hay, Sudan grass hay, heading grain sorghums and hauling stalks, and seeding Hairy Peruvian alfalfa on plats A-1 to 81.

During the week ending October 23, the maximum temperature was 86, minimum 36, and greatest daily range 40.

The high winds encountered during the week have done some damage to the standing cotton crop on the project. The Pima cotton especially has been blown out quite badly. The picking situation is beginning to lag. A shortage of pickers still exists. Many growers, however, do not seem to be in a hurry to have their cotton picked. With a lack of financial assistance to pay the pickers and the extremely low prices of lint and seed, the growers seem contented to leave the cotton on the stalk for a while.

Station work during the week consisted of plowing alfalfa stubble D-23 to 26; harvesting alfalfa C-13 to 17; harvesting grain sorghums D-1 to 4; hauling off stalks C-25 to 28; irrigating ground for barley D-13 to 17; and repairing gas engines and pumps.

Mr. T. H. Kearney was a station visitor on October 20 and 21.

-----00-----



9  
69W



**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

NOV 1920



W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
and  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII.

November, 1920

No. 27

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the week ending November 13, the maximum temperature was 85, minimum 34, greatest daily range 30 and precipitation .60 inch.

Root rot counts and measurements were completed and the making of final diagrams begun.

Plowing was done as follows: A4-14-18; A6-18; B5-2-8, and B6-4. Sorghum was hauled from plats A4-10, A6-4, B5-5-9-13.

Mr. Polhamus, of the Office of Crop Acclimatization, left for Bard, California, the night of November 11. Messrs. McKeever and Beckett, of the same office, left that evening for Greenville, Texas.

During the week ending November 20, the maximum temperature recorded was 75, minimum 22, and greatest daily range 30. A precipitation of .14 inch was recorded for the week. The first killing frost occurred the night of November 14 with a minimum temperature of 31 degrees. This was followed by a temperature of 22 degrees the night of the 15th, which froze to the ground such tender plants as the cannas, morning glory and beans. Two of the smallest Cocos palms on the grounds of the farm residence were slightly injured. Temperatures below freezing were also recorded for the nights of November 16 and 17.

Plowing was done on the following fields and plats: C3, north of pomegranates; A3, south of Rhodes grass; A3, nursery; A1, west of tennis court; garden at farm residence, and pasture east of farm buildings.

Cotton stalks on all rotation plats and on field C4 were mowed, also sorghum and weed growth on all sorghum plats. Texas Red oats were seeded in pasture east of corrals. One stack of about two tons of Sudan grass was baled.

Yuma

Mr. Noble reports as follows for the week ending November 6; The weather continues to be mild and pleasant with no killing frost recorded as yet. Cotton picking on the project continues to lag. The price of short staple is still under 20 cents and of the long staple only the contracted Egyptian is being sold. The shortage of pickers is responsible to a large degree for the laggardness of all picking.

The fall seeded alfalfa and the barley varieties on the station, are up in nice shape. The harvesting of grain sorghums varieties was completed during the week.

Mr. O. F. Cook, in charge of the office of Crop Acclimatization, was a station visitor during the week.

Maximum temperature for the week was 77, minimum 35 and greatest daily range 37.

---

Demonstrations on Reclamation ProjectsField NotesUncompahgre:

Parts of two days of the week ending November 20, were spent in connection with the fair, assisting the secretary in straightening up payment of premiums and in attending a meeting of the directors. The fair was quite successful from the standpoint of finances, this year, there being some \$800 left in the treasury after all expenses had been paid. Over \$2,000.00 was paid in cash premiums, of which \$741.00 was paid in the livestock department, in addition to about \$230.00 received from the State and Breed Associations.

On Thursday a sale of young purebred Holstein bulls was held at the Pahgre Valley Ranch on the Project. It was not expected that these bulls would bring their value, but in view of the fact that two open heifers of practically the same breeding from the same farm sold at the St. Paul sale last June for \$1,000 and \$1,100, and that recent official butterfat tests of the herd have resulted in two records of above 30 lbs. of butter in seven days, it was thought that the offering would attract buyers willing to pay reasonable prices. Only nine head were sold, which seemed to satisfy all the demand. The nine head brought a total of \$725. an average of about \$80.50. A 12 months bull whose dam had just completed a record of over 30 lbs. of butterfat in seven days brought \$200. The sire of all the bulls in the sale is from a cow with a butter record of 34 lbs. in seven days and over 1,000 lbs. in a year.

Miscellaneous

The attention of all field men is invited to the following memorandum from the Chief of the Division of Publications:

MEMORANDUM FOR CHIEF OF BUREAUS AND OFFICES.

Subject: Emergency Field Printing.

Under existing law, (see Memorandum No. 263 of the Secretary of Agriculture, dated March 10, 1919), all printing and binding for the Department must be performed at the Government Printing Office, except that in cases of extreme emergency certain printing and binding may be performed by commercial printing plants, outside the District of Columbia, for use of various field services of the Department. The regulations of the Joint Committee on Printing limit the amount of such emergency for the Department to \$5,000 for the fiscal year 1921. The utmost care must be used in order to keep the outside printing, even in emergencies, within this limitation.

When an actual emergency arises in the field, which seems to necessitate a job of printing there rather than at the Government Printing Office, and it is clear that the circumstances could not have been foreseen, the Chief of the Bureau concerned should immediately place the facts before this Division in writing, with a request that the job be authorized. This statement should show clearly wherein an emergency exists which makes it impracticable to have the work done at the Government Printing Office; and should include a full description of the work; an estimate of the cost; should cite the specific appropriation available for payment; and any other circumstances which will make clear the urgency of the instance in question. When the emergency clearly is such as to warrant the printing outside the Government Printing Office under the \$5,000 limitation set by the Joint Committee, this Division will authorize the performance of the work and will promptly notify the bureau accordingly.

When the voucher is submitted it should be transmitted to this Division properly certified and accompanied by a sample of the finished work, together with a reference to the date of our memorandum authorizing the printing. The voucher then will be approved here, in such manner that the Division of Accounts and Disbursements will make settlement. Scheduling for payment, of vouchers covering outside printing, without the authority for same being indicated results in confusion as the Disbursing Clerk cannot settle such vouchers until their approval, under the regulations of the Joint Committee on Printing, is indicated on their face.

The careful observance of this routine will result in the saving of much time, and will eliminate the confusion which seems to exist in the Department at present in handling outside printing transactions.

9  
9W

**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

DEC 4 1920

## BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
and  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII

December 4, 1920

No. 28

Western Irrigation Agriculture.

Field Notes.

Yuma.

During the week ending November 28, 1920, the maximum temperature was 80, minimum 31.5, and greatest daily range 45.

Weather conditions continue mild and pleasant. On account of the prolonged season later crops than usual of alfalfa are being harvested. Alfalfa hay is selling for \$12 to \$15 in the stack. Cotton picking continues wherever money can be supplied to pay the picking charges. In many cases only the first picking has been made and the crop then plowed under.

Prices ranging from 10 to 15 cents are being offered for lint cotton. Seed at the oil mills is bringing \$14 per ton.

Station work during the week consisted of cutting grain sorghum stalks, plowing date lands, seeding barley varieties, seeding peas for green manuring on plats C-19 to 23 and picking cotton on variety and cooperation tests.

The first killing frost of the season was recorded on the morning of November 26, making a total of 316 days since the last killing frost in the spring.

Messrs. C. S. Scofield, O. F. Cook and A.C. Cooley were station visitors during the week.

Demonstrations on Reclamation Projects.

Field Notes

Huntley.

The following notes have been taken from Mr. Wright's report for the month of November, 1920:

A few cars of hay have been shipped to Western points, the price being \$14.50 per ton on the track at local stations while the local price is \$8 to \$10 a ton in the stack. Many who had

Contemplated feeding sheep have been unable to secure the necessary financial assistance.

Throughout the month the attention of settlers has been centered upon a proposition submitted by the U. S. Reclamation Service. The plan proposed is to combine the cost of necessary new work estimated at \$410,000 with an existing deficit of \$423,847.04, amounting in all to \$29.50 per irrigable acre and permit payment in annual installments without interest after the expiration of the period of repayment of the primary construction charge, that is, after 1934. Officials of the U. S. Reclamation Service held meetings at the principal community centers at which the plan was explained and discussed. A canvas of the votes shows that the proposition has been rejected by the settlers. This leaves them facing a probable increase of the annual operation and maintenance charge to remove the deficit and as yet without any provision for carrying on future construction and drainage work, a part of which, at any rate, is badly needed.

Culling Dairy Herds.-- Samples of milk from 75 cows comprising 13 herds were tested, statements of test mailed to owners, and a summary of milk production and feed consumption was made for the month of August. The relation between the price of feed, (hay) and the price of butter fat is encouraging farmers to milk cows which could not have been milked profitably last year. Twenty-eight farm visits pertaining to this project were made.

Miscellaneous Veterinary.-- No unusual disease conditions were evident during the month. Indigestion and impaction necessitated most of the 13 visits made. Two autopsies were performed to satisfy owners as to the cause of the death of animals.

#### Uncompahgre.

During the week ending November 27, 1920, Mr. Ireland reports as follows:

Some of the exhibitors at the Western Slope Fair have proposed that breeders of purebred livestock purchase a large tent to be used at the fair for demonstrations in connection with purebred stock, lectures, judging, exhibits of typical animals of various classes and breeds, etc. A letter was sent to the principal exhibitors at the fair to learn how much interest there would be in the plan to which there has been some response.

Several calls have been made this week in response to inquiries for dairy cows and advertisements of cows for sale. There is some interest in cows among men who have surplus feed but prices received for products have been so low that money for purchase of cows is not available in most cases and banks are not lending money except in cases of urgent need and where the security is unusually good.

A special meeting of the "Western Slope Wool Growers' Association, an organization of range-sheep owners, was attended. Grazing permits, coyote extermination, wool markets, wage reduction, etc., were among the topics discussed. The general atmosphere of the meeting was "blue". Action was taken looking toward a general and somewhat radical reduction of wages, as all present agreed that present wages paid to herders and other employees is out of proportion to prices being received for sheep and wool. Strong sentiment was expressed against the proposed increase of grazing fees on the National Forest Reserves.

The Reclamation Service has begun the annual crop census on the project. The Project Manager agreed to secure special information regarding the livestock on the Project for this office in connection with the crop census and a special form was made for this purpose. The returns are now coming in but none of them have, as yet, been tabulated.

-----0-----



WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

DEC 11 1920

WEEKLY EDITION

— 1870 —

THE DAILY NEWS, DAILY HERALD, DAILY CHRONICLE,

— 1870 —

THE DAILY NEWS, DAILY HERALD, DAILY CHRONICLE,

— 1870 —

THE DAILY NEWS, DAILY HERALD, DAILY CHRONICLE,

W E E K L Y B U L L E T I N  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
and  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII

December 11, 1920

No. 29

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the two weeks ending December 4, the maximum temperature recorded at the station was 77, minimum 30, and greatest daily range 40. A precipitation of 1.14 inches occurred the 25th and 26th of November. There were seven days recorded as cloudy during the period.

With the exception of four days of wet weather, one 3-mule team has been kept busy plowing rotation plats in fields A and B. Plat A5-16 was plowed and subsoiled. Cotton stalks and weeds on rotation plats which had been mowed were raked and burning of same commenced. Mowing of cotton stalks on C5 was begun.

During rainy weather the labor was utilized to gin out a small quantity of seed cotton, shell corn for feed and various miscellaneous work about the farm buildings and grounds. Cracks in the floor of the cement seed house were filled with cement and the doors were repaired in an effort to keep out rats and mice.

Demonstrations on Reclamation Projects.

Field Notes

Uncompahgre.

For the week ending December 4, Mr. Ireland reports as follows:

Several alfalfa mills have been sold on or near the project this year. Meal which early in the summer brought \$30 per ton f.o.b. shipping point now has very little market value. One mill owner is undertaking to make mixed feeds for horses and dairy cows, using the meal as a base, to be sold locally. More than 20 different rations have been calculated for him from the common feeds available.

Allen Nash had the misfortune this week to lose the Hampshire ram he recently purchased from the Kansas State Agricultural College

at a cost of \$225. This ram which was selected for Mr. Nash last June, was first prize American bred ram at the Chicago International, first prize and reserve grand champion ram at the Western National, and Grand Champion at both 1920 State Fairs of Kansas. The cause of the loss is not known.

One of the project farmers attempted a closing-out sale of his herd of purebred Duroc-Jerseys this week. The event attracted a very small crowd and the demand was so light that only a few hogs could be sold. Registered sows, bred, in good condition sold for \$30 to \$35. Another farmer of Paonia who probably has the best herd of purebred hogs in Western Colorado, is offering his herd, also a number of registered Holsteins, for private sale. This stock is not on the project and considerable time has been given this week in an attempt to interest some project farmer in it.

A meeting of the bull association was attempted on Saturday, but was very poorly attended. It was decided that an effort should be made to secure new members to replace those who have sold their cows.

Only 57 cows have ever been subscribed for and of these only 19 remain in the association. But 13 cows have been bred in the past five months.

W



**WEEKLY BULLETIN**

**OF THE OFFICES OF**

**WESTERN IRRIGATION AGRICULTURE**

**AND**

**DEMONSTRATIONS ON RECLAMATION PROJECTS**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

DEC 18 1920



WEEKLY BULLETIN  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
and  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII

December 18, 1920

No. 30

Western Irrigation Agriculture.

Field Notes.

Huntley.

During the week ending December 11, the maximum temperature was 50, minimum 15, and precipitation .31 inch. The entire fall season has been unusually dry. The precipitation for the three months ending November 30, was 0.57 inch, while the normal for this period is 4.15 inches.

Crop conditions on the Huntley Project during the past season were rather unfavorable. Yields of sugar beets were low and grain crops were injured by hail on many parts of the project. The alfalfa crop was short as a result of winter injury during the previous winter. The demand for hay is light and only a small amount has been sold, the price being about \$3.00 per ton in the stack.

Hogging-Off corn, Irrigated Rotations, 1920.

Plat No. Crop	K-II-2 Corn	L-IV-22 Corn-rape	L-IV-27 Corn-rape
Number of hogs.....	8	8	8
Number of days.....	22	24	15
Total initial weight..... Lbs.	638	599	781
Total final weight..... "	836	781	1019
Total gain..... "	198	182	238
Average daily gain..... "	1.13	.95	1.98
Grain per pound gain.....	6.2	5.95	4.40
Pork per acre..... Lbs.	792	728	952
Yield of corn (estimated). .Bu.	66.4	58.6	56.8

Yields of Corn in Irrigated Rotations, Fields K and L, 1920.

Rotation Number	Plat Number	Pounds per Plat		Bushels Per Acre Corn	Tons Per Acre Stover
		Corn	Stover		
6	KIV-23	510	390	27.5	.78
6a	LIV-21	790	570	42.7	1.14
16	KV-1	740	570	40.0	1.14
26	KV-12	840	640	45.4	1.28
32	KIV-19	845	800	45.7	1.60
67	KII-2	"Hogged-Off".		792 lbs pork per A	
69	LIV-22	"	"	728 "	"
69	LIV-27	"	"	952 "	"

Yields of Barley, variety Trebi, Fields O-III and O-IV, 1920

Plat No.	Pounds per Plat		Bushels per Acre
	Grain	Straw	
0-III-1	620	380	51.7
2	580	440	48.3
3	560	560	46.7
4	650	830	54.2
5	720	690	60.0
6	760	720	63.3
7	760	620	63.3
8	790	630	65.8
9	780	660	65.0
10	750	690	62.5
11	760	810	63.3
Average	702.8	639	53.5
<hr/>			
0-IV-1	570	640	47.5
2	670	560	55.8
3	620	570	51.7
4	408	638	34.0
5	565	639	47.1
6	728	622	60.7
7	678	620	56.5
8	690	884	57.5
9	808	856	67.3
10	812	824	67.7
11	650	770	54.1
Average	654.5	692.8	54.5

## Yields of Oats in Fields L-I and L-II, 1920.

Plat Number	Pounds per Plat		Bushels per Acre
	Grain	Straw	
L-I-1	740	840	92.5
2	720	710	90.0
3	720	760	90.0
4	730	720	91.2
5	680	720	85.0
6	690	710	86.2
7	660	670	82.5
8	640	670	80.0
9	580	640	72.5
10	650	620	81.2
11	620	590	77.5
12	640	630	80.0
<hr/>			
Average	672	690	84.1
Average plats 1 to 8 inclusive.....87.2			
<hr/>			
L-II-1	510	610	63.7
2	580	590	72.5
3	710	740	88.8
4	640	670	80.0
5	730	790	91.2
6	730	730	91.2
7	720	920	90.0
8	750	810	93.8
9	710	810	88.8
10	750	810	93.8
11	740	800	92.5
12	750	810	93.8
<hr/>			
Average	693	757	86.6
Average plats 1 to 8 inclusive.....83.9			
<hr/>			

Yields alfalfa, Field 0-I, 1920.

Plat Number	Pounds per Plat			Tons per Acre			
	First	Second	Third	First	Second	Third	Total
0-I-1	514	800	670	1.03	1.60	1.34	3.97
2	404	650	600	.81	1.30	1.20	3.31
3	616	820	740	1.23	1.64	1.48	4.35
4	468	690	600	.93	1.38	1.20	3.51
5	468	810	620	.93	1.62	1.24	3.79
6	570	720	670	1.14	1.44	1.34	3.92
7	502	730	640	1.01	1.46	1.28	3.75
8	566	740	615	1.13	1.48	1.23	3.84
9	710	930	710	1.42	1.86	1.42	4.70
10	560	800	610	1.12	1.60	1.22	3.94
11	690	890	715	1.38	1.78	1.43	4.59
<hr/>							
Average	552	780	658	1.10	1.56	1.31	3.97

Yields Alfalfa in Fields L, B-IV,  
B-VI, and C, 1920

Field	Area Acres	Pounds per Field			Tons per Acre			
		First	Second	Third	First	Second	Third	Total
B-IV	2.13	4450	6270	3775	1.05	1.47	.89	3.41
B-VI	2.26	6094	5950	5015	1.34	1.31	1.11	3.76
C	12.17	32872	29130	13025	1.35	1.19	.54	3.08
L-I-Tri	.55	2070	2290	1875	1.88	2.08	1.70	5.66
L-II-"	.564	2036	2290	1770	1.81	2.05	1.57	5.43
L-III "	.57	1736	1710	670	1.52	1.50	.59	3.61
L-IV-"	.582	2116	2620	2720	1.82	2.25	2.34	6.41

Demonstrations on Reclamation ProjectsField Notes.Uncompahgre.

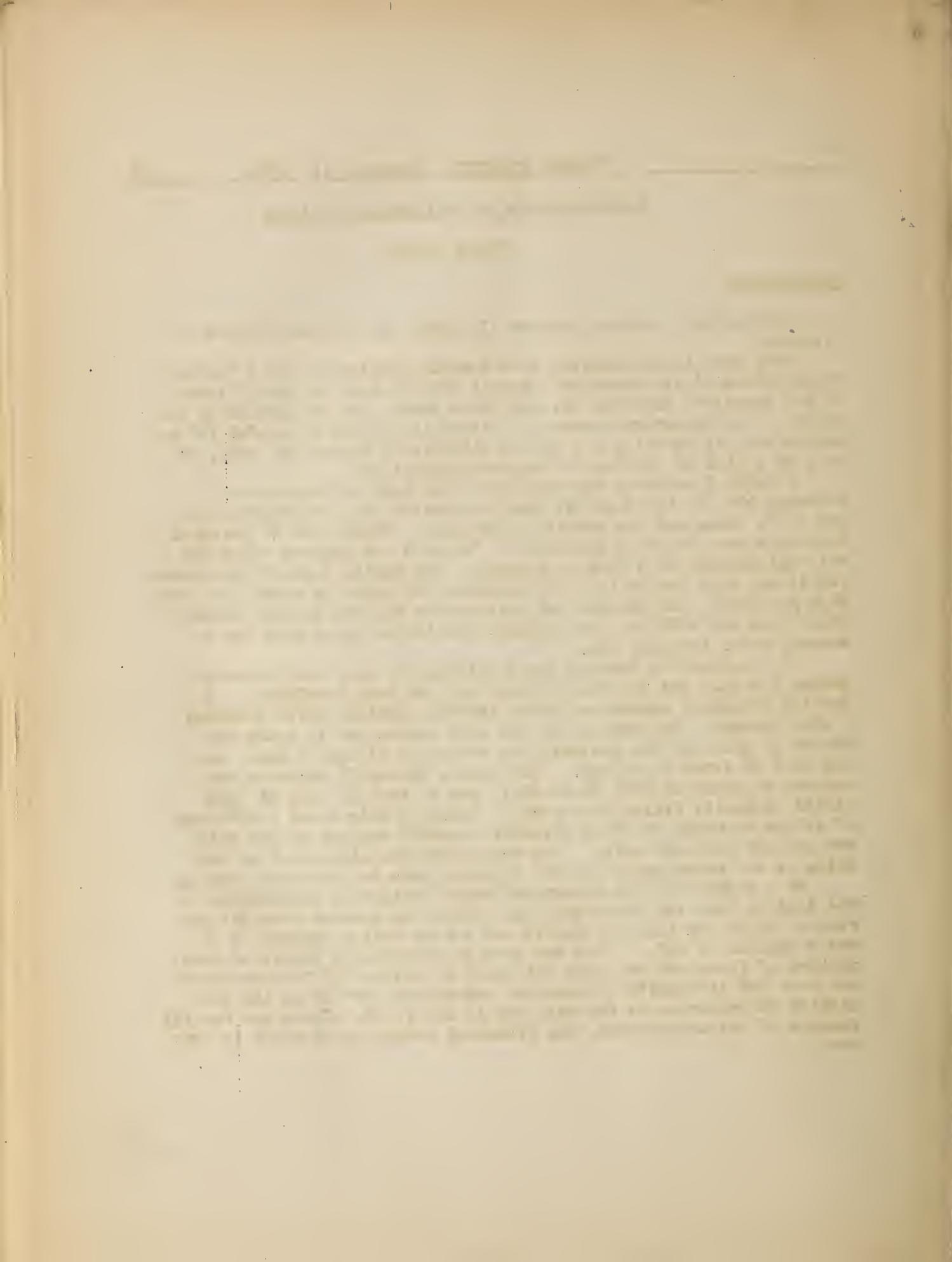
For the week ending December 11, 1920, Mr. Ireland reports as follows:

Bids have been requested from several publishers for a Western Slope Breeders' directory as a result of a meeting of the officers of the Breeders' Association, held this week. It is planned to include in the directory a number of items in the way of useful information such as remedies for common ailments of livestock, etc., as well as a list of breeders of purebred livestock.

A sale of purebred Hereford bulls was held in Montrose on December 6th, by the Sneffels Land and Cattle Co., of Ridgway and the G. W. Means and Son estate of Sargent. Forty head of purebred Herefords were offered, including a few cows and heifers which did not sell because of a lack of demand. The bulls, most of which were yearlings, sold better than was expected, bringing an average of over \$230 per head. One hundred and thirty-five dollars was the lowest price paid and \$700 was the highest, the latter being paid for a smooth, thick two-year old.

The Reclamation Service has completed the crop and livestock census for 1920 but the results have not yet been tabulated. A special livestock census was taken for this office, which included a silo census. The purpose of the silo census was to learn the number of silos on the project, the amount of silage on hand, and the kind of stock to be fed. The census showed 56 silos on the project as compared with 61 in 1917, and of the 56, only 31 were filled or partly filled this year. There is only about 2,000 tons of silage on hand, of which probably one-half was put up for sale and has not yet been sold. The reason for the dis-use of so many silos is not known and an effort is being made to learn the reasons.

At a meeting of the Livestock Health Protective Association it was decided that the membership dues should be changed from \$18 per year to \$1.50 per head for cattle and horses with a minimum of \$6 and a maximum of \$18. This was done to accommodate owners of small numbers of livestock who have not cared to put up \$18 for membership and have had difficulty in securing veterinary service as the association veterinarian is the only one in the field. There are now 173 members of the association, the financial condition of which is very good.



9 W



## WEEKLY BULLETIN

OF THE OFFICES OF

WESTERN IRRIGATION AGRICULTURE

AND

DEMONSTRATIONS ON RECLAMATION PROJECTS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

DEC 25 1920



WEEKLY BULLETIN  
Of the Offices of  
WESTERN IRRIGATION AGRICULTURE  
and  
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVII

December 25, 1920

No. 31

Western Irrigation Agriculture.

Field Notes.

San Antonio.

All fall plowing and subsoiling of plats in the rotation and tillage experiment fields was completed during the two-week period ending December 18. Plowing of fields C4, 5 and 6, in one piece, was begun.

Temporary repairs were made on the plumbing and heating apparatus in the greenhouse. The cement seed house was given a heavy fumigation with hidrocyanic acid gas. Apparently good results were obtained as no live weevil, mice, nor rats have been seen in the building since.

Mr. C. S. Scofield spent two days at the station, leaving for Washington the night of December 7. Mr. T. R. Robinson, of the Office of Crop Physiology and Breeding Investigations spent Tuesday, December 14, at the station.

A maximum temperature of 85 was recorded for December 12, and on the night of December 13, a minimum of 20 was recorded. The greatest daily range for the period was 45. Five cloudy or partly cloudy days occurred, although a precipitation of only 0.08 inch was recorded.

Yuma.

The maximum temperature during the week ending December 18 was 72, minimum 27.5 and greatest daily range 40.

Although the nights are quite cold and many heavy frosts have occurred, the weather conditions are very favorable for the harvesting of the cotton and late hay crops. Throughout the valley the cotton has opened exceedingly well this year and practically all the top crop will open.

Ten to twelve cents is buying the upland cottons offered for sale. The Pima market remains very inactive. A cotton acreage of approximately 3,000 acres has been signed up in the vicinity of Somerton and Gadsden to be planted to Durango next spring.

Station work during the week consisted of plowing grain sorghum stubble plats Cl to 5, harvesting alfalfa in the fig and deciduous orchard, picking and ginning cotton varieties, grinding feed, and repairing machinery and pipe lines.

The lack of any rain this fall has made it necessary to irrigate some of the fall seeded grains. Barley and oat varieties seeded in October were watered Monday.

Mr. Bruce Drummond, in charge of the Government Date Garden at Indio, California, was a station visitor on the thirteenth.

#### Demonstrations on Reclamation Projects

#### Field Notes.

#### Uncompahgre.

The week ending December 18 was given largely to the annual report, but office calls and meetings have interfered to such an extent that not much progress has been made on the report.

Some large land holders in Kentucky have requested data relative to hog growing on this project on a large scale, with a view to locating here. Data showing cost of land, water and feeds, possible returns per acre from pork production, etc., were furnished.

A request was received from two men for assistance in marketing hogs and an effort is being made to find men near Kansas City who have a surplus of corn which they would like to put into light hogs from here. This would save freight on corn and reduce the freight on the hogs.

The bull association met Thursday and decided to sell the bull now owned, on the market. The tester of the local cow-testing association reported that the bulls heifers have not been making records that justify keeping the bull longer. A bull is to be leased from Loesch Brothers' herd. This bull has some good records back of him. Loesch Brothers are not offering him for sale but want to get him into service.

The committee to arrange for a program for a three-day stockmens' and farmers' congress in February met Wednesday. Men of national reputation, including Governor Shoup, Ex-Governor Armons, Mr. Jamison, President of the State Farm Bureau, Secretary Marshal of the National Wool Growers' Association, President Lory of the State Agricultural College, have accepted invitations to appear on the program. A banquet for 800 is being planned in connection with the event.

Since the establishment of a beet sugar factory at Delta frequent inquiries are received concerning the feeding of pulp and molasses. As was the case with silage a few years ago, much objection is being made to these feeds on the grounds that they will destroy animals' teeth, ruin breeding animals for future usefulness, etc. However, some men are taking full advantage of the supply of these feeds, but the factory is putting in a large feeding plant to take care of the surplus.

1.9  
P697  
v.17 1920

U.S.

